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THE ENTIRE *Compendium*

WORKS

OF

Dr Thomas Sydenham,

Newly made *English* from the Originals:

WHEREIN THE

History of *Acute* and *Chronic* DISEASES,

AND THE

SAFEST and most EFFECTUAL METHODS
of treating them, are faithfully, clearly,
and accurately delivered,

To which are added,

EXPLANATORY and PRACTICAL NOTES,

From the best MEDICINAL WRITERS;

With others by the TRANSLATOR:

Further illustrating the principal Matters, and teaching the Practice
of Inoculation, the Use of Chalybeats, and mineral Waters, with
the Remedies and Regimen proper for nephritic Patients.

The THIRD EDITION, with all the NOTES inserted in their
proper Places.

By JOHN SWAN, M. D.

Syd'nham a great, a mighty genius came,
Who founded Med'cine on the noblest frame:
He study'd Nature thro', and Nature's laws,
Nor blindly puzzled for the peccant cause.
Father of physick He—Immortal Name!
Who leaves the Grecian but a second fame.

Sing forth, ye Muses, in sublimer strains,
A new Hippocrates in Britain reigns:
With ev'ry healing plant his grave adorn,
Saviour of many millions yet unborn.

SEWEL.

LONDON: Printed for E. CAVE, at ST JOHN'S GATE.
M.DCC.LIII.

1776

Edward Morris

Esqr.

ES

dward



To Dr SHAW.

S I R,

AS you were pleas'd to permit me to prefix your name to the *former Edition* of this work, I hope I need make no apology for presuming to ascribe *this* to you; especially as I have endeavour'd to render it less unworthy your patronage, by the considerable improvements it has received, by passing under the most accurate review I was capable of giving it.

I know, Sir, that no name, not even yours, would be sufficient to screen an ill performance from the censure it deserves; and I know likewise that I should immediately incur, what I most of all fear, your own censure, should I allow myself particularly to speak the many respectful things I cannot but think of you. I shall, therefore, only add, that had I been under no particular obligations to your friendship, I should have hoped that a gentleman of the faculty, who, besides his own valuable writings in the medical way, has labour'd so successfully to oblige the world with the works of *Bacon* and *Boyle*, in a form the most commodious for general use, would naturally be inclin'd to smile on a translation of his favourite SYDENHAM, tho' it should not be supported by those friendly prepossessions, which I am proud of telling the world I have reason to believe you have in favour of,

S I R,

Your most obliged, and

most obedient servant,

JOHN SWAN.

THE
TRANSLATOR'S PREFACE.

1. **T**HE great character that Dr *Sydenham* has justly acquired, both at home and abroad, is so well known to those who are conversant in the art of medicine, that it may seem unnecessary to enlarge upon it here. We are told by the late celebrated *Boerhaave*, that none among the moderns engaged him longer, or improv'd him more than *Sydenham*, to whose merit he has left this attestation, that *He frequently perus'd him, and always with greater eagerness*; and assured his pupils, that *no physician, since the venerable Hippocrates, has wrote of diseases with so much exactness* (a). And elsewhere he laments, that *few if any of the modern writers on physick have attained to the perfection of the antients*. I can only (says he) mention one great man, THOMAS SYDENHAM, the ornament of England, and the Apollo of the art, whom I never consider but my mind presents me with the genuine picture of an Hippocratic physician, and to whom physick is so much indebted, that all that I can say will fall short of his merit. (b)

2. Our author's works have been long esteemed the best practical system of physic extant, and as such is chiefly followed at this day by the most eminent physicians in *Europe*. So great a regard has been paid to his name by his countrymen, that Dr *Pechey's* translation has passed through no fewer than ten editions; notwithstanding the disadvantages it labours under with respect to propriety, clearness, and accuracy; disadvantages which some ingenious and eminent physicians have thought so great, as to render a new version not only desirable, but necessary.

3. As to the present translation, I have endeavoured to give it the free and easy air of an original, by adapting the diction to the genius and idiom of our language: and to make it still more familiar have used as few terms of art as possible, and studiously avoided

(a) *Metb. discend. art. med. p. 497.*

(b) *In oratione de commend. stud. Hippoc.*

avoided obsolete and unusual phrases, and in many places also I have shortened or varied the manner of expression, for the sake of propriety and perspicuity, where-ever this could be done without injuring the author's sense.

4. Our author's entire works were never, before the first edition of this work, publish'd together in *English*, nor any part of them *with explanatory and practical notes*, tending to illustrate his experienced methods of cure.—The notes which I have annex'd are many of them taken from the best modern writers (*c*); several were communicated to me by friends of the faculty, and some I have ventur'd to furnish; so that, besides Dr *Sydenham's* own judicious observations, the reader will here meet with the remarks of several eminent physicians upon most of the diseases he treats of.

5. I think it the part of justice as well as of gratitude to inform the world, that many which I esteem among the most valuable things to be found in the *additional notes to this Edition* were communicated to me by my much esteemed friend Dr *Stonhouse* of *Northampton*, who has had so many advantages for improving his experience in several infirmaries which he has attended both at *home* and *abroad*; and especially in that in the town where he resides: the principal care of which has lain on him ever since its foundation.

6. I doubt not but many of my readers will know him to have been the author of that truly useful LETTER TO A PATIENT, *lately publish'd, which has already pass'd thro' many editions, and been translated into Dutch for the use of the Infirmaries in Holland*; and in which he hath attempted to put the MINDS of the sick into the happiest situation:—a care, on my author's principles, well becoming the character of the wisest physician (*d*). But if any should think otherwise,

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(*c*) Boerhaave, Hoffman, Baglivi, Ramazzini, de Gorter, Heister, Van Swieten, Geoffroy, Astruc, Mead, Shaw, Nicholls, Hoadly, Cheyne, Huxham, Hilary, Turner, Fuller, Wintringham, Arbuthnot, Clifton, Langrish, Lewis, Lobb, Sharp, &c. &c. &c.

(*d*) As the frame of the mind, if I may use the expression, is much more curious and artful than the structure of the body; as consisting in an harmony of the most excellent and almost divine faculties; so if the constitution be any way disordered, the

civil

The Translator's preface.

I know that my very worthy friend has learnt, according to *Sydenham's* noble manner of thinking, “*to be ready to serve mankind, even at the expence of his own reputation*” (e).

7. The *first* edition of this work was illustrated with *marginal notes*, a *copious Index*, and the author's life; and was also divided into number'd paragraphs for the conveniency of references:—embellishments and advantages which no other edition ever had, and which we have heard with particular satisfaction were very acceptable to our readers; for which reason we have continued them in this *third* edition, and have inserted the additional notes of the *second* in their proper places.

8. The reader will meet with a few things in the notes interspers'd through-out the work, which he may think require some apology; but if he considers that they are wrote in the taste and manner of our author, who was one of the most ingenuous, candid, honest, and benevolent physicians of his time, or that ever liv'd perhaps, and design'd to illustrate some of his most useful observations, or to recommend them more strenuously to the notice and practice of mankind, I persuade myself that the freedom which I have occasionally taken in expressing my real sentiments plainly and candidly, will seem allowable enough, and no way deserving censure.

9. I shall conclude with observing one thing in my favour, which is, that I have not added to the multiplicity of bad books, but endeavour'd to introduce a known good one to a larger acquaintance, and make it more extensively useful, by rendering it more familiar, complete and intelligible.

J. S.

evil must be so much the greater, the more excellent and delicate the workmanship was, whilst it remained entire. See p. 423 of our author.

(e) For upon deliberate and equitable reflection, I find it is better to assist mankind than to be commended by them, and highly conducive to tranquillity of mind, popular applause being lighter than a feather, or a bubble, and less substantial than a dream *ib.* p. 458.

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The LIFE of

Dr SYDENHAM.

THOMAS SYDENHAM was born in the year 1634, at *Winford Eagle* in *Dorsetshire*, where his father *William Sydenham Esq*; had a large fortune. Under whose care he was educated, or in what manner he passed his childhood, whether he made any early discoveries of a genius peculiarly adapted to the study of nature, or gave any presage of his future eminence in medicine, no information is to be obtained. We must therefore repress that curiosity which would naturally incline us to watch the first attempts of so vigorous a mind, to pursue it in its childish enquiries, and see it struggling with rustic prejudices, breaking on trifling occasions the shackles of credulity, and giving proofs in its casual excursions, that it was formed to shake off the yoke of prescription, and dispel the phantoms of hypothesis.

That the strength of SYDENHAM's understanding, the accuracy of his discernment, and ardour of his curiosity might have been remarked from his infancy by a diligent observer, there is no reason to doubt. For there is no instance of a man whose history has been minutely related, that did not in every part of life discover the same proportion of intellectual vigour; but it has been the lot of the greatest part of those who have excelled in science, to be known only by their own writings, and to have left behind them no remembrance of their domestic life, or private transactions, or only such memorials of particular passages as are, on certain occasions, necessarily recorded in publick registers.

From these it is discovered, that at the age of eighteen, in 1642, he commenced a commoner of *Magdalen-Hall* in *Oxford*, where it is not probable that he continued long; he informs us himself, that he was withheld from the university by the commencement of the war; nor is it known in what state of life he en-

gaged, or where he resided during that long series of public commotion. It is indeed reported, that he had a commission in the king's army, but no particular account is given of his military conduct; nor are we told what rank he obtained when he entered into the army, or when, or on what occasion he retired from it.

It is, however, certain, that if ever he took upon him the profession of arms, he spent but few years in the camp; for in 1648 he obtained at *Oxford*, the degree of bachelor of physick, for which, as some medicinal knowledge is necessary, it may be imagined that he spent some time in qualifying himself.

His application to the study of physick was, as he himself relates, produced by an accidental acquaintance with *Dr Cox*, a physician eminent at that time in *London*, who in some sickness prescribed to his brother, and attending him frequently on that occasion, enquired of him what profession he intended to follow. The young man telling him that he was undetermined, the doctor recommended physick to him, on what account, or with what arguments, it is not related; but his persuasions were so effectual, that *SYDENHAM* determined to follow his advice, and retired to *Oxford* for leisure and opportunity to pursue his studies.

It is evident that this conversation must have happened before his promotion to any degree in physick, because he himself fixes it in the interval of his absence from the university, a circumstance which will enable us to confute many false reports relating to *Dr SYDENHAM*, which have been confidently inculcated, and implicitly believed.

It is the general opinion, that he was made a physician by accident and necessity, and *Sir Richard Blackmore* reports in plain terms, [*preface to his treatise on the small-pox*] that he engaged in practice without any preparatory study, or previous knowledge, of the medicinal sciences; and affirms, that when he was consulted by him what books he should read to qualify him for the same profession, he recommended *Don Quixote*.

That he recommended *Don Quixote* to *Blackmore*, we are not allowed to doubt; but the relater is hindered by that self-love which dazzles all mankind, from discovering

covering that he might intend a satire very different from a general censure of all the antient and modern writers on medicine, since he might perhaps mean either seriously, or in jest, to insinuate, that *Blackmore* was not adapted by nature to the study of physick, and that, whether he should read *Cervantes* or *Hippocrates*, he would be equally unqualified for practice, and equally unsuccessful in it.

Whatsoever was his meaning, nothing is more evident, than that it was a transient folly of an inclination warmed with gaiety, or the negligent effusion of a mind intent on some other employment, and in haste to dismiss a troublesome intruder; for it is certain that SYDENHAM did not think it impossible to write usefully on medicine, because he has himself written upon it; and it is not probable that he carried his vanity so far, as to imagine that no man had ever acquired the same qualifications besides himself. He could not but know that he rather restored than invented most of his principles, and therefore could not but acknowledge the value of those writers whose doctrines he adopted and enforced.

That he engaged in the practice of physick without any acquaintance with the theory, or knowledge of the opinions or precepts of former writers, is undoubtedly false; for he declares, that after he had, in pursuance of his conversation with *Dr Cox*, determined upon the profession of physick, he *applied himself in earnest to it*, and *spent several years in the university* [aliquot annos in academica palæstrâ] before he began to practise in *London*.

Nor was he satisfied with the opportunities of knowledge which *Oxford* afforded, but travelled to *Montpellier*, as *Desault* relates [dissertation on consumptions] in quest of farther information; *Montpellier* being at that time the most celebrated school of physick: So far was SYDENHAM from any contempt of academical institutions, and so far from thinking it reasonable to learn physick by experiments alone, which must necessarily be made at the hazard of life.

What can be demanded beyond this by the most zealous advocate for regular education? What can be expected from the most cautious and most industrious student,

student, than that he should dedicate *several years* to the rudiments of his art, and travel for further instructions from one university to another?

It is likewise a common opinion, that SYDENHAM was thirty years old before he formed his resolution of studying physick, for which I can discover no other foundation than one expression in his dedication to *Dr Mapletost*, which seems to have given rise to it by a gross misinterpretation; for he only observes, that from his conversation with *Dr Cox* to the publication of that treatise *thirty years* had intervened.

Whatever may have produced this notion, or how long soever it may have prevailed, it is now proved beyond controversy to be false, since it appears that SYDENHAM having been for some time absent from the university, returned to it in order to pursue his physical enquiries before he was twenty four years old, for in 1648 he was admitted to the degree of batchelor of physick.

That such reports should be confidently spread, even among the cotemporaries of the author to whom they relate, and obtain in a few years such credit as to require a regular confutation; that it should be imagined that the greatest physician of the age arrived at so high a degree of skill, without any assistance from his predecessors; and that a man, eminent for integrity, practised medicine by chance, and grew wise only by murder, is not to be considered without astonishment.

But if it be on the other part remembered, how much this opinion favours the laziness of some, and the pride of others; how readily some men confide in natural sagacity, and how willingly most would spare themselves the labour of accurate reading and tedious enquiry, it will be easily discovered how much the interest of multitudes was engaged in the production and continuance of this opinion, and how cheaply those of whom it was known that they practised physick before they studied it, might satisfy themselves and others with the example of the illustrious SYDENHAM.

It is therefore in an uncommon degree useful to publish a true account of this memorable man, that pride, temerity, and idleness may be deprived of that patronage which they have enjoyed too long; that life

may

may be secured from the dangerous experiments of the ignorant and presumptuous; and that those who shall hereafter assume the important province of superintending the health of others, may learn from this great master of the art, that the only means of arriving at eminence and success are labour and study.

About the same time that he became batchelor of physick, he obtained, by the interest of a relation, a fellowship of *All Souls* college, having submitted to the subscription required to the authority of the visitors appointed by the parliament, upon what principles, or how consistently with his former conduct, it is now impossible to discover.

When he thought himself qualified for practice, he fixed his residence in *Westminster*, became doctor of physick at *Cambridge*, received a licence from the college of physicians, and lived in the first degree of reputation, and the greatest affluence of practice, for many years, without any other enemies than those which he raised by the superior merit of his conduct, the brighter lustre of his abilities, or his improvements of his science, and his contempt of pernicious methods supported only by authority, in opposition to sound reason and indubitable experience. These men are indebted to him for concealing their names, when he records their malice, since they have thereby escaped the contempt and detestation of posterity.

The same attention to the benefit of mankind, which animated him in the pursuit of a more salutary practice of medicine, may be supposed to have incited him to declare the result of his enquiries, and communicate those methods of which his sagacity had first conjectured, his experience afterwards confirmed the success; he therefore drew up those writings which have been from his time the chief guides of physick, and that they might be useful to a greater extent, procured them to be put into latin, partly by *Dr Mapletost*, to whom part is dedicated, and partly by *Mr Havers* of *Cambridge*.

It is a melancholy reflection, that they who have obtained the highest reputation, by preserving or restoring the health of others, have often been hurried away before the natural decline of life, or have passed many of their years under the torments of those distempers

tempers, which they profess to relieve. In this number was SYDENHAM, whose health began to fail in the fifty second year of his age, by the frequent attacks of the gout, to which he was subject for a great part of his life, and which was afterwards accompanied with the stone in the kidneys, and, its natural consequence, bloody urine.

These were distempers which even the art of SYDENHAM could only palliate, without hope of a perfect cure, but which, if he has not been able by his precepts to instruct us to remove, he has, at least, by his example, taught us to bear; for he never betray'd any indecent impatience, or unmanly dejection, under his torments, but supported himself by the reflections of philosophy, and the consolations of religion, and, in every interval of ease, applied himself to the assistance of others with his usual assiduity.

After a life thus usefully employed, he died at his house in *Pall Mall*, on the 29th of *December*, in the year 1689, and was buried in the isle, near the south door, of the church of *St James* in *Westminster*.

What was his character, as a physician, appears from the treatises that he has left, which it is not necessary to epitomise or transcribe; and from them it may likewise be collected, that his skill in physick was not his highest excellence; that his whole character was amiable; that his chief view was the benefit of mankind, and the chief motive of his actions the will of GOD, whom he mentions with reverence, well becoming the most enlightened and most penetrating mind. He was benevolent, candid, and communicative, sincere and religious; qualities, which it were happy if they would copy from him, who emulate his knowledge, and imitate his methods.

THE AUTHOR'S PREFACE.

1. **S**INCE the human body is so formed by nature, Origin of
phyfick.
that by reason of the continual wear of its component particles, and the force of external agents, it cannot always continue in the same state, whence numerous diseases have in all ages arisen; doubtless the necessity of discovering a cure for them, must have put mankind upon studying phyfick, long before the birth of the *Grecian*, or even the *Egyptian Æsculapius*, who flourish'd a thousand years before the former.

2. In reality as it would be difficult to assign the first Hard to
be trac'd.
inventer of houses and clothing, for a defence against the injuries of the weather, so the origin of phyfick can no more be discovered, than the head of the *Nile*; notwithstanding that this art, as well as some others, must have always subsisted, tho' it has been cultivated more or less according to the dispositions of different countries, and ages. (a)

3. The
(a) If it be allowed that phyfick had its origin from a principle of self-preservation, no science can lay claim to greater antiquity, it being almost coeval with the world; for it must doubtless have had a beginning soon after the fall; our first parents, and, through them, all mankind, being from thence render'd unavoidably subject to numerous diseases and casualties, and even death itself, in punishment of their fatal disobedience.

I do not, however, contend that phyfick was reduc'd into a science in the earliest ages, but was promiscuously practis'd, every man being his own physician; after a series of time, it grew up into a liberal art from a number of observations, experiments, and medicines, and so fell to the province of particular persons to exercise it, who from thence were entitled physicians. Thus we see, that phyfick had a being before there were any physicians; tho' it could not be properly called an art, till it had its peculiar distinct professors.

In effect, it should seem highly probable that sickness and pain must have necessarily excited mankind to seek for immediate relief: they could not be men, and be so thoughtless and insensible under these deplorable circumstances, as to neglect a search of such importance to their well-being. For it cannot be imagined that man alone should be so deaf to the voice of nature and reason, as not to be extremely solicitous as well to preserve his health, as to restore it when lost, since we see that brutes are so strongly impell'd to both by mere instinct.

After

Its antient
and
modern
improvers.

3. The performances of the antients in this science; and chiefly of *Hippocrates*, are well known; their works containing the most considerable part of the curative branch. And the following ages have produced some eminent men, who have spared no pains to extend its limits by a close application either to anatomy, pharmacy, or practice, not to mention those of our own age and nation, whose endeavours in all the sciences that tend to improve this art deserve the praises of an abler pen. (*b*)

The en-
deavours
of the
author.

4. But how considerable soever their attempts have been, I should always have esteemed myself a useless member of society, had I not contributed my mite towards the improvement of physick. And upon this account, after long deliberation, and many years close and faithful observation, I resolv'd (1) to communicate my thoughts relating to the manner of making farther advances in physick; and (2) to publish a specimen of my endeavours in this way.

The ways
of improv-
ing phy-
sick.

5. The improvement of physick in my opinion depends (1) upon collecting as genuine and natural a description, or history of all diseases, as can be procured; and (2) laying down a fix'd and complete method of cure,

After all enquiries of this kind, the truth and usefulness of a science are more to be consulted than its antiquity: 'tis from these excellencies we ought to form our opinion of it, and be induced to protect and encourage it, and not from its antiquity only, since this of itself adds no real value to any science, and is often found thro' a false and slavish veneration to give currency and sanction to very pernicious errors.

(*b*) Upon comparing the antient state of physick with the scientific and truly useful improvements of the moderns, it will seem strange that so small a progress should have been made in the art; which must surely be ascribed to our having departed from the only just method of improving it by the joint help of reason and experience. Whoever carefully peruses practical writers, will find that they have advanced several things, concerning the causes and nature of diseases, contradictory to experience; as will manifestly appear by consulting a number of them upon any particular disease. Hence we see $\frac{1}{2}$ great circumspection is necessary to prevent our being led into error. Again, experience teaches us a shorter and easier method of curing several diseases, than the common one; and to reason against fact is highly absurd: whence it follows that we ought not to confine ourselves to pursue strictly the generally received methods of cure, but to forsake the beaten path occasionally, as reason and experience shall direct.

cure (c). It is easy enough to describe diseases unskillfully, but to write such a full and accurate history of them as to escape the censure that lord Bacon has passed upon some great promisers in another way, is a much more difficult task. "We are not to learn, says the noble author, that we have a voluminous natural history, which is agreeable by the variety of its matter, and by the pains bestow'd upon it render'd curious and entertaining in many places: but if it were stript of its fables, quotations, trifling disputes, philology, and other ornaments, that are fitter for the conversation of learned men at their hours of relaxation, than for institutes of philosophy, the matter of it would be brought into a very narrow compass. Such a history falls far short of our design." And thus the cure of diseases is easily delivered according to the common method, but to do it in a masterly scientific manner will appear a much harder task to those who know that there are abundance of distempers to be met with in practical writers, that were and still continue incurable.

6. But with regard to the history of diseases, whoever considers the undertaking deliberately, will perceive that the author must attend to several more particulars than are ordinarily minded, a few of which I shall mention at present.

The history of diseases a work of difficulty.

7. (1.) All diseases then ought to be reduc'd to certain and determinate kinds, with the same exactness as we see it done by botanic writers in their treatises of plants. For there are diseases that come under the

Diseases to be reduced to certain kinds.

(c) The history of diseases, says Baglivi, or the *medicina prima* ought to be distinguish'd from the curative part, or the *medicina secunda*. The former is a science *sui generis*, and is only to be drawn from the pure and uncorrupted springs of nature; or, to speak more properly, depends upon a plain and accurate description of distempers, as they appear in their beginning, height, increase, declension, and termination, to the diligent and judicious observer. The *medicina secunda*, or the curative branch of the art, may, I confess, be much improv'd by an application to other sciences, especially to those that have any relation to physic; or may be considered as branches thereof amongst which chemistry, botany, the knowledge of the six non naturals, experimental philosophy, anatomy, and the like, may be enumerated, which eminently contribute towards the perfection of the method, and the deriving the curative indications from every the least circumstance. Baglivi op. p. 14, 15.

same *genus*, bear the same name, and have some symptoms in common, which, notwithstanding, being of a different nature, require a different treatment. Thus it is generally known, that the word *carduus* is applied to several kinds of herbs, and yet a botanist would be guilty of inaccuracy, who should content himself with giving a general description of the plant, and enumerating the marks, wherein it differs from all others, and in the mean time take no notice of the peculiar characteristics of every species, which distinguish them from one another. In like manner, it is not enough for a writer to give us only the common signs or appearances of any disease: for tho' the same variety does not happen in all distempers, yet, I hope to make it plainly appear in the following sheets, that there are several, which, notwithstanding their being treated of by authors under the same name, without any distinction of kind, are extremely different.

But not to
support
any hypo-
thesis.

8. Furthermore, where we meet with this distribution of distempers into kinds, it is commonly done to serve some hypothesis, founded upon the true phenomena; and hence this distinction is rather adapted to the bent of the author, and his manner of philosophizing, than to the nature of the disorder. How much the improvement of physick has been obstructed by this erroneous procedure appears in not a few diseases, the cure of which would not have been undiscovered at this day, if the benevolent writers of experiments and observations had not been deceived by taking one disease for another. And to this cause I esteem it owing, that the *materia medica* is so immensely enlarged, and yet with little advantage to the diseas'd.

No hypo-
thesis to be
us'd in
writing a
history of
diseases.

9. (2) In writing, therefore, a history of diseases, every philosophical hypothesis which hath prepossess'd the writer in its favour, ought to be totally laid aside, and then the manifest and natural phenomena of diseases, however minute, must be noted with the utmost accuracy; imitating in this the great exactness of painters, who, in their pictures, copy the smallest spots or moles in the originals. For 'tis difficult to give a detail of the numerous errors that spring from hypotheses, whilst writers, misled by false appearances, assign such phenomena

The Author's preface.

phenomena for diseases, as never existed, but in their own brains; whereas they ought to appear clearly, if the truth of their favourite hypothesis, which they esteem incontestable, were well establish'd. Again, if any symptom properly suiting their hypothesis, does in reality belong to the disease they are about to describe, they lay too much stress upon it, as if nothing more was wanted to confirm it; whereas, on the contrary, if it does not agree with their hypothesis, their manner is, either to take no notice at all of it, or but barely to mention it, unless they can, by means of some philosophical subtlety, adjust it thereto, and bring it in some measure to answer their end. (d)

10.

b 2

(d) Hypotheses owe their origin to ostentatious vanity and idle curiosity; whence 'tis easy to conceive how much they must needs obstruct the improvement of physick, which is a science that depends chiefly upon well-conducted experiments and close and faithful observation; whereas hypotheses are always built in great part upon feign'd, precarious, and often very obscure principles; so that they may aptly enough be stil'd the unshapely production of a lively and wanton imagination. The humour of over-looking familiar and obvious effects, to search after their secret and absolutely undiscoverable causes, is an error of very antient date, and hence physick has ever been pester'd with hypotheses, the multitude and precariousness whereof have only serv'd to render the art uncertain, fluctuating, fallacious, mysterious, and in a manner unintelligible.

And if their useflessness and bad tendency be consider'd it should seem strange that they should have prevail'd so long, and still maintain their ground; for certain it is that not a single medicine has been discovered by their assistance, since the introduction of them into physick above 2000 years ago, nor have they let in the least light into the affair of administering medicines properly in particular circumstances, but rather serv'd to bewilder us, to perplex practice, and create disputes that are never to be decided without having recourse to experience, the true test of opinions in physick. Indeed, as all hypotheses are chiefly founded upon suppositious and unsettled principles, it were folly to expect truth, and certainty from them. It is worth observing, says a very ingenious writer and deep thinker, that all the real true knowledge we have of nature is intirely *experimental*; insomuch that, how strange soever the assertion seems, we may lay this down as the first fundamental unerring rule in physick, *That it is not within the compass of human understanding to assign a purely speculative reason for any one phenomenon in nature*; as why grass is green, or snow is white; why fire burns, or cold congeals? By a *speculative reason*, I mean, assigning the true and *immediate efficient cause a priori*, together with the manner of its operation, for any effect whatsoever purely natural. We find indeed by observation and

experience

The proper and accidental symptoms to be particulariz'd in describing a disease.

10. (3) Again, in describing any disease, it is necessary to enumerate both the peculiar and constant phenomena, or symptoms, and the accidental ones separately; of which latter kind are those which differ occasionally by reason of the age and constitution of the patient, and the different method of cure. For the appearance or aspect of a disorder often varies according to the different method of cure; some symptoms being rather occasioned by the physician than the disorder itself: so that persons labouring under the same illness, being differently treated, have different symptoms. And hence unless great caution be us'd in this point, our notions of the symptoms of diseases must necessarily be very loose and uncertain: not to mention that uncommon

experience that such and such effects *are* produc'd; but when we attempt to think of the reason *why*, and the *manner how* the causes work those effects, then we are at a stand; and all our reasoning is precarious, or at best but probable conjecture.

If any man is surpris'd at this, let him instance in some speculative reason he can give for any natural phenomenon; and how plausible soever it appears to him at first, he will, upon weighing it thoroughly, find it at last resolv'd into nothing more than mere observation and experiment; and will perceive that those expressions generally us'd to describe the *cause* or *manner* of the productions in nature, do really signify nothing more than the *effects*. The most plausible reason which can in such cases be assign'd, will be found to amount to nothing beyond a bare comparison, or *analogy* of some *effects* with others; as when inferences are made from the proportion of velocity in other *liquids* thro' *tubes* of certain conical figures, to the circulation of the blood and *spirits* in the *arteries* and *veins* of an human body. Now tho' this last should be allow'd a plausible way of *guessing* how far the effects may be *similar* in both; yet what *certain scientific* conclusions can possibly be drawn from it, when such a variety of circumstances, as occur in the complicated frame of a human body, must join to render the cases so widely different? Or what can be more groundless than to conclude, with a philosophic air of positiveness, that because the smallest particles of some medicines which we can discern with microscopes, seem, when thus view'd, to resemble *wedges*, *globes*, &c. therefore the *invisible* particles of which even *these* are compos'd, would be found of the same figures, were the clusters dissolv'd, and capable of being thus seen: and that consequently when they are dissolv'd in the humours of our body, they must act *mechanically* just as a wedge or globe, &c. does out of it? All these observations may with equal justice be extended to accounts given of the mechanical causes and manner of motion and operation in the *larger* bodies of the universe; whenever the terms used in such treatises are pretend'd to signify any thing beyond *effects* known from experience.

From

mon cases do not more properly belong to the history of diseases, than the biting of the palmer-worm, in describing *sage*, is to be reckon'd amongst the characteristic marks of that plant. (e) b 3 II.

From hence we may see how little that abstracted and mechanical way of reasoning from the structure and *configuration* of the minute particles in medicines, and of the solids and fluids in human bodies, which obtains so much of late, is likely to contribute to advance the art of healing; since it is in truth no other than running altogether into *hypotheses*, tho' our modern mechanical reasoners profess, at the same time, to reject and explode them utterly. For however they may tell you plausibly in *general*, that the different *species* and *effects* of bodies, with their specific *qualities* and *attributes*, proceed from nothing else but the different *figure*, *size*, or *motion*, of their minute particles: yet when you come to *particular* instances, and demand of them what that peculiar configuration, texture, size, or motion of the particles, for instance, of flour of *sulphur*, or *camphire*, or *mercury* is, which renders them capable of *operating* after such and such a manner, and producing such *effects* in the solids or fluids of an human body and *how* they act; you will find them utterly at a loss. And whoever reads the mechanical reasoning of some of our best and most ingenious modern physicians upon the operations of those very medicines, will find them all precarious *conjectures*, and nothing more than uncertain *hypotheses*, dressed up in the style and form of *certainty* and *demonstration*. I cannot forbear therefore mentioning again this fear and jealousy of my own, which I am persuaded is not altogether groundless; that there never will be any great and considerable advances made in the art of *healing*, till all hypotheses and mechanical reasoning are out of vogue, and till men are come about again to the antient method of pure experiment, and the common obvious reasoning intirely from thence.

Thus short and imperfect is all our boasted knowledge of nature; we are intirely in the dark as to the inward structure and composition of the minute particles of all bodies; and can with no degree of certainty judge or determine any thing concerning them, but from their outward appearances and sensible effects; when we attempt any thing beyond this, all our reasonings are full of confusion and uncertainty. And yet even this purely *experimental* knowledge of nature is however a degree of it aptly suited to our present state and condition in this life; it answers all the reasonable ends of our well-being and preservation: and if we had sagacity and acuteness of sense enough to penetrate into the very *intimate essences* of things, and into the exact configuration of the *minute* parts of matter, it would perhaps answer no other end but that of useless speculation and amusement.

Bp Brown's procedure &c. of human understanding, Edit. 3. p. 205. &c.

(e) Hippocrates, by closely attending to observation, discovered that diseases have certain constant and individual symptoms, and others that are adventitious, or casual, and common to other distempers,

The seasons of the year to be carefully noted.

II. (4) Lastly, the seasons of the year that principally promote any particular kind of diseases, are to be carefully remarked. I own that some happen indiscriminately at any time, whilst many others, by a secret tendency of nature, follow the seasons of the year with as much certainty, as some birds and plants. And indeed I have often wonder'd that this tendency of some distempers, which is very obvious, has been hitherto observed but by few, whereas abundance of persons have, with great exactness, noted under what planet plants spring, and brutes ingender. But from what cause soever this inadvertency proceeds, certain it is that a knowledge of the seasons in which diseases ordinarily arise, is of great use to a physician towards discovering the species of the disease, as well as the method of curing it; and that the consequence of flighting this piece of knowledge, is ill success in both.

The usefulness of a history of diseases to practice.

12. These are some of the most remarkable, tho' not the only particulars to be observed in writing a history of diseases; the usefulness of which to practice is not to be conceived, and in comparison whereof the subtile enquiries, and trifling notions, with which the writings

stempers, and that the former depend upon the identical and constant nature of the disease, and the latter either upon the different treatment of the patient, or the numerous and always various assemblage of causes. The first he form'd into aphorisms, as the rules of the art, and left the latter to the judgment of the physician.

The constant symptoms, which may be call'd the characteristic signs of diseases, sometimes strike the senses, and sometimes lie conceal'd, and can't be accounted for in a probable way. And, nevertheless, whatever they are, they ought not to be overlook'd by the physician, but should be faithfully noted, just as they appear. For as the curative indications are taken from every the least circumstance, so the least motions of diseases, tho' somewhat obscure, are to be investigated, and describ'd; by which means we shall not only be furnished with a complete history of distempers, but a method of cure likewise, which is still more valuable. To the obscure motions of diseases may be refer'd the critical days, the secret changes of diseases amongst themselves, their translation to one part rather than another, the latent mutual consent of the parts, the periods of diseases, and their increase at set hours, which happens in some kind of pains in fevers also, and several other disorders. *Baglivi, op. p. 6, 7.*

writings of the moderns abound are of no sort of value (*f*). For, is there a shorter, or indeed any other way of coming at the morbid causes we are to encounter, or of discovering the curative indications, than by a certain and distinct perception of the peculiar symptoms? Even the smallest circumstance is of use to both these purposes. For allowing that some variety happens from the constitution of particular persons, and the method of cure, yet nature notwithstanding acts in that orderly and equable manner in producing distempers, that the same disease appears attended with the like symptoms in different subjects: so that those which were observ'd in *Socrates*, in his illness, may generally be applied to any other person, afflicted with the same disease, in the same manner as the general marks of plants justly run thro' the same plants of every kind. Thus for instance, whoever describes a violet exactly as to its colour, taste, smell, form, and other properties, will find the description agree in most particulars with all the violets in the universe.

13. And in truth 'tis my opinion, that the principal reason of our being yet destitute of an accurate history of diseases, proceeds from a general supposition that diseases are no more than the confus'd and irregular operations of disorder'd and debilitated nature, and consequently that it is a fruitless labour to endeavour to give a just detail of them. (*g*)

Why we yet want an accurate history of diseases.

b 4

14. But

(*f*) Nothing eminent can be done in the prognostic, and especially in the curative part of physick, without an accurate and circumstantial history of diseases; for how is it possible to foretel what will happen in a distemper, and proceed properly in the cure, if we are ignorant of the constant and fortuitous symptoms attending it, and the general progress of it from the beginning to the end, when nothing intervenes to obstruct its ordinary course, whether from mismanagement, accident, or otherwise?

(*g*) A close and diligent search into the rise, progress, and termination of diseases will clearly shew the contrary, nature acting with great steadiness and uniformity in producing, carrying on and terminating diseases, provided she be not forc'd out of the way by some accident, or improper means; so that if application and judgment be not wanting, 'tis not impossible to give a just and orderly detail of all the symptoms and appearances, without omitting the minutest particular.

For the causes that have hitherto prevented our having a full and

The curative indications to be gather'd from the smallest circumstances.

14. But to resume our subject: a physician may likewise collect the indications of cure from the smallest circumstances of the distemper as certainly as he does the distinguishing signs from them (*b*). And for this reason I have often thought, that if I had a just history of any disease, I should never be at a loss to apply a suitable remedy to it: its different phenomena, or symptoms, manifestly shewing the way to be followed, and being carefully compar'd together, would lead us, as it were by the hand, to those obvious indications that are gathered from a thorough insight into nature, and not from the errors of the imagination.

What made Hippocrates so excellent a physician.

15. By these steps and helps the father of physick, the never enough extolled *Hippocrates*, came to excel in his profession, who, after laying down this solid and unshaken foundation to build the art upon, has clearly delivered the symptoms of every disease, without calling in any hypothesis to his aid, as appears in his books concerning *diseases*, &c. He has likewise left us some rules drawn from the observance of nature's method of promoting and removing distempers; such are his *prognostics*, *aphorisms*, and other writings of this kind.

and particular history of diseases, and the rules to be observed in writing one, we can't do better than refer the reader to the second and third chapters of the second book of the judicious and industrious *Baglivi's praxis medica*, where he will find these matters treated with great clearness, accuracy, and judgment.

(*b*) The curative indications in distempers can't be more certainly deriv'd than from the most threatening and prevailing symptoms, which chiefly manifest the nature and violence of the disease. If therefore for want of noting, and duly considering all circumstances, and especially over-looking the effects of all that is given or applied to the patient, we mistake in the indications of cure, we must needs go wrong, and do mischief.

The forming just indications then being a matter of the highest importance, we ought to make use of all the helps we can procure in order thereto, by attending to every thing that falls under the notice of the senses, the procedure of nature from the beginning of the illness to the time we are call'd, the strength of the patient at this time, the cause of the disease, the season of the year, the then reigning distempers, the sex, age, and constitution of the patient, &c. all which particulars being maturely considered and compar'd, will certainly direct us to the genuine curative indications, whence we may hope to succeed in the cure, or at least to secure our reputation by making the danger known, and foretelling the fatal consequence that is likely to ensue.

kind. Of these particulars the theory of this eminently judicious physician chiefly consisted, which not being deduced from the trifling fallies of a wanton imagination, like the dreams of distempered persons, exhibited a genuine history of the operations of nature in the diseases of mankind. Now his theory being no more than an exact description of nature, it was highly reasonable that he should aim in his practice only at relieving diseased nature by all the means he could employ; and hence, likewise, he required no more of art, than to assist nature when she languish'd, and to check her when her efforts were too violent; and to accomplish both these ends by the steps and method whereby she endeavours to expel the disorder; for this sagacious observer found that nature alone terminates distempers, and works a cure with the assistance of a few simple medicines, and sometimes even without any medicines at all. (i)

16. (6)

(i) Whoever will be at the pains of perusing the writings of *Hippocrates* with due attention, will find him justly entitled to the eminent character he has enjoy'd for so many ages, and is likely to preserve to latest time. We meet with manifest proofs there of his being possess'd in an extraordinary degree of the most essential qualifications of a physician; a more than common attention in observing all the different phenomena of diseases, and a profound judgment to apply this knowledge in the fittest manner to practice.

He remarked with surprizing exactness all that preceded distempers, the symptoms that accompanied them, and what did good or hurt upon every occasion. And indeed his steady and close application to acquire this truly useful part of medical knowledge, which he justly held in the highest esteem, left him neither inclination nor leisure to prosecute enquiries of less consequence with diligence enough to make any considerable progress therein. He greatly improved the art by being at the pains of collecting a large number of observations, in order to discover the issue of distempers, as to life or death, and to be able to foretel what would happen in all the cases that came under his care: and he made so extraordinary a proficiency in this branch of the art, that his writings contain the best set of prognostics, that are to be met with in any writer at this day. Upon enquiry, I fear it will be found, that most have copied from him in this point, and few added any thing to his discoveries.

It is on all hands allowed that he found physick in a very confused and imperfect state, and left it much mended both in point of method and certainty. Whence he has been all along respected as the restorer and founder of the art.

Phyſick
further im-
provable
by deliver-
ing a com-
plete
method of
cure.

16. (2.) The other method of improving phyſick further conſiſts chiefly, in my opinion, in delivering a fixed and every way complete method of cure; ſuch a one, I mean, as hath been ſufficiently eſtabliſh'd and verified by a competent number of experiments, and found eſfectual to cure any particular diſeaſe. For I conceive it not enough to publiſh the particular ſucceſs of any method or medicine, if neither are generally found to answer the end in all caſes, at leaſt in the ſame given circumſtances. But I maintain that we ought to be as certainly aſſured that a particular diſeaſe may be conquered by answering a certain indication, as we are of answering a particular indication by ſome certain medicine, that will generally tho' not always produce the deſir'd effect: thus, for inſtance, we purge with *ſena*, and cauſe ſleep with *poppies*. However, I do not deny but that the phyſician ought to attend carefully to the particular effects both of the method and medicine he uſes in curing diſeaſes, and to ſet them down for the eaſe of his memory, as well as the improvement of his knowledge; ſo that at length, after many years experience, he may fix upon ſuch a method of curing any particular diſeaſe, as he need not in the leaſt depart from. (k)

The inuti-
lity of
publiſhing
particular
obſervati-
ons.

17. But the publiſhing particular obſervations is not ſo uſeful, in my opinion; for if the obſerver only intends to inform us that a particular diſeaſe hath yielded once, or oftner, to ſuch a medicine; of what advantage

(k) It were highly to be wiſh'd that we had ſuch a certain general method of cure, as our author here deſcribes, which might be acquired, one would think, if phyſicians would unani- mouſly ſet about it in earneſt. To adapt it to our own nation; our climate, the air we breathe, the winds that moſt frequently blow, our manner of living, the diſeaſes we are moſt ſubject to, the medicines that agree beſt with our conſtitution, the ſituation, ſoil and water of particular places, and the like muſt be known, and exactly noted. Upon theſe principles a general method of cure might be eſtabliſhed in moſt diſtempers, from which we need only depart occaſionally, as particular circumſtances and exigencies may require.

In peruſing the writings of phyſicians of a different nation with this view, let it always be remember'd, that they are foreigners, and treat of diſeaſes as they appear with them reſpectively, and ſuit the method of cure to the place of their reſidence, inſomuch that their rules cannot be ſafely followed by us any further than they ſhall be found to correſpond with our own obſervations, and experience, in a ſufficient variety and number of inſtances.

vantage is it to me, that a single medicine, which I knew not before, is added to the immense stock of eminent medicines, that we have long been pester'd with? But if, laying aside all other medicines, I should use only this, ought not its virtues to be approved by numerous experiments? And are there not also numberless other circumstances, relating both to the patient and the method of cure, to be considered before any advantage can be reap'd from a single observation? If the medicine never fails, why does the observer deal only in particulars, unless he either distrusts his experience, or desires rather to impose upon the publick in part, than in the whole (1)? But how easy a task it is to write large volumes of this kind, can be no secret to one that is but little acquainted with practice; as, on the contrary, how

(1) The author here should seem not to have sufficiently attended to the advantages derivable from faithful and accurate observations, which are the principal foundation of the pathological and curative branches of physick. For experience, the soul of the art, is the result of a number of such observations made by ourselves and others, and physick is much more indebted to them for its improvement, than to all the discoveries that have ever been made in the art, and all the hypotheses that have been invented with this specious design; many things happening daily in the course of distempers, which being exactly noted, greatly contribute to direct us in the like cases, tho' it may be they cannot be accounted for in a satisfactory manner. But to render them truly useful, I confess they should be wrote with much more exactness than they generally are, and no circumstances of any moment omitted from the beginning to the ending of the distemper, as well relating to the course thereof, as the method of cure employ'd, setting down the medicines that were exhibited from day to day, and the effects they had, and specifying likewise the diet, regimen, &c. in a very particular manner. Many of the observations delivered both by the antients and moderns labour under great defects, and are so far from being complete, or the things we mean, that they do not deserve the name of observations, but ought rather to be entitled fragments of observations, and of course are of little or no use to guide the practical physician in the true method of cure [For, as *Dr Cotton* very justly observes, after the pain of turning over a variety of vols. we still find that the particular case we wanted, is either not mentioned at all, or too partially and superficially, to serve our purpose].

So that it is in medicine as in navigation. Rules may be laid down, and charts exhibited; but when a man hath made himself master of all these, he will often find himself among shelves and quicksands; and must at last have recourse to his own natural sagacity, to extricate himself out of these difficulties.

Letter to Dr Mead on a particular kind of scarlet fever,
&c. p. 21.

how difficult it is to lay down a perfect, and every way complete method of cure in any disease. If only one person in every age had treated but a single disease in this manner, physick would have been brought to as much perfection many years ago, as the condition of mankind will admit. But our misfortune proceeds from our having long since forsook our skilful guide *Hippocrates*, and the antient method of cure, founded upon the knowledge of conjunct causes, that plainly appear: insomuch that the art which is at this day practis'd, being invented by superficial reasoners, is rather the art of *talking* than of *healing*. But that I may not seem to advance this assertion without sufficient grounds, I beg leave to make a short digression from the subject, in order to prove that the discovering and assigning of remote causes, which engross the thoughts, and feed the vanity of curious enquirers, is an impossible attempt, and that only immediate and conjunct causes fall within the compass of our knowledge, and that from these alone the curative indications are to be taken.

Remote causes not to be discover'd.

Reasons to prove this assertion.

18. Accordingly, it must be observed, that if the humours are retain'd in the body beyond the due time, either (1) because nature cannot digest and afterwards expel them, or (2) from their having contracted a morbid taint from a particular constitution of the air, or (3) lastly, from their being infected with some poison: by these, I say, and the like causes, these humours are work'd up into a substantial form, or species (*m*), that discovers itself by particular symptoms, agreeable to its peculiar essence; and these symptoms, notwithstanding they may, for want of attention, seem to arise either from the nature of the part in which the humour is lodged, or from the humour itself before it assumed this species, are in reality disorders that proceed from the essence of the species, newly raised to this pitch: so that every specific disease arises from some specific exaltation, or peculiar quality of some humour contain'd in a living

(*m*) Or, in plainer language, the humours undergo such a change from some one of these causes, just mentioned, as to occasion a distemper, attended with the peculiar symptoms, proceeding from this change, and agreeable to the nature of the distemper hereby form'd.

ing body. Under this kind may be comprehended most diseases, which have a certain form or appearance; nature in fact observing the same uniform method in producing and bringing diseases to a height or *crisis*, as she does in the production or growth of plants or animals. For as every plant or animal is possess'd of peculiar properties, so is it likewise in every exaltation of any humour after its being come to a species, or disease. We have a clear proof of this every day in those kinds of excrescences that grow on trees and shrubs (occasioned by the ill quality of the nutritious juice, or other causes) in the form of moss, mistletoe, mushrooms, and the like; all which are manifestly different essences, or species, from the tree or shrub that bears them.

19. In reality, whoever diligently and accurately considers the phenomena, or symptoms, accompanying a *quartan fever*, viz. that it mostly comes towards *autumn*, and keeps a certain course, or appearance, the fits or periodical revolutions of it returning as certainly every fourth day, as a clock renews its rounds, unless this regular course be interrupted by some external agent; that it begins with a shivering, and a great sense of cold, which are succeeded by as sensible a degree of heat, which terminates at length in a profuse sweat; and lastly, that whoever is seiz'd with this disorder, is seldom cur'd before the *vernal equinox*: I say, whoever duly considers these particulars, will find as strong reasons to believe that this distemper is a species, as a plant is one, which in like manner springs out of the earth, flowers, and dies, and is in other respects affected agreeably to its nature or essence. For it is not easy to comprehend why this disease should arise from a combination of principles and manifest qualities, whilst a plant is on all hands allow'd to be a substance and distinct species in nature. However, in the mean time, we do not deny but that as most kinds of animals or plants subsist of themselves, so on the contrary the species of distempers depend on those humours that produce them.

Further proved by a *quartan fever*.

20. But tho' from what has been delivered the causes of most diseases should seem absolutely undiscoverable,

Diseases
curable
tho' their
remote
causes can-
not be dis-
covered.

able, yet the question, *how they may be cured*, may be answered, inasmuch as we speak here only of their remote causes. Now 'tis easy to observe that the curious enquirers into these causes lose their labour, whilst they endeavour, in spite of nature, to investigate and bring them to view, and yet overlook the immediate and conjunct causes that are at hand, which must necessarily and may be discovered without such trifling helps, inasmuch as they disclose themselves to the understanding, fall under the notice of the senses, or may be learnt from the anatomical observations of our predecessors. And as it is manifestly impossible a physician should discover those causes that have not the least correspondence with the senses, so neither is it necessary: 'tis sufficient for him to learn the immediate causes, and those effects and symptoms of a distemper, that may enable him to distinguish accurately between this and another similar disease. Thus, for example, in a *Pleurisy*, it is a fruitless labour to search into the ill quality and broken texture of the blood, whence this disease originally proceeds, which are not to be comprehended; but whoever perfectly understands the immediate cause thereof, and can distinguish it from all other distempers, will cure it as certainly, tho' he neglects the useless and trifling search after remote causes.— But this by way of digression.

Specifics
wanting
towards
the further
improvement
of
physick.

21. But if any one were to ask whether, besides the two foregoing *desiderata* in physick, *viz.* (1) a true history of diseases, and (2) a certain and establish'd method of cure, a third should not be added, namely, the discovery of *specific* remedies? I answer in the affirmative, and proceed to do my part towards it. For tho' that seems to me the best method of curing acute diseases, which, after nature has pitch'd upon a certain kind of evacuation, assists her in promoting it, and so necessarily contributes to cure the distemper; it is nevertheless to be wish'd that the cure might be shortened by means of *specifics* (if any such medicines can be discovered) and, which is of more importance, that the patient might be preserved from the evils which are the consequence of those errors that nature often unwillingly makes in expelling

expelling the cause, even tho' she is assisted in the most effectual and skilful manner by the physician. (n)

22. As to the cure of *chronic diseases*, tho' I believe that more advantage may be expected from the use of a *method* only, than can be conceiv'd at first, yet 'tis plain that this is wanted in the cure of some of the most considerable distempers of this kind, which happens chiefly for this reason, that nature is not possess'd of so effectual a method of expelling the morbid matter in *chronic* as in *acute* diseases, which might enable us to conquer the distemper, by assisting her, and aiming at the true end. In eradicating a *chronic* disease, therefore,

(n) A want of specifics in physick is a complaint of long standing, and yet no due care has been taken to supply the deficiency. The few we have would have stood upon a much surer foundation, if their effects under all the different circumstances they may have been given, had been diligently noted and register'd; for by this means we should have been furnish'd with a set of rules, directing how and when to exhibit, or not exhibit them, as well as useful cautions to render them more beneficial. The best medicines often fail merely for want of administering them judiciously; for supposing them to have undergone no change for the worse, by keeping, or unskilful preparation, it is manifest they must needs always produce similar effects in nearly the same given circumstances: so that when they do not, the fault is not in the medicines, but proceeds from their being given improperly, without distinguishing the accuracy requisite in cases of this nature.

Certain it is that a true specific is of that real value, that a person would be amply rewarded for his pains, who by making a diligent enquiry after this kind of medicines, should discover but one in his whole life. In order to proceed in such a method as may afford some hopes of success, it might not be amiss, (1.) to get a clear conception of what is meant by a *specific*, which may, perhaps, be defin'd, "a medicine possess'd of such peculiar virtues, as infallibly to relieve, or cure the particular disorder for which it is used, being exhibited as nearly as can be in the same given circumstances". (2) The next thing to be done is to form a set of rules to direct him methodically in the enquiry and manner of making proper trials, so as not to run the risque of his reputation, or injure the patient. Natural and experimental philosophy, mechanics, anatomy, botany, chemistry, &c. are to be studied with this view: and not a few helps may be had from analogy, and comparative anatomy and medicine. (3) The success and failure of a specific in the several cases it is given are to be carefully and faithfully register'd, not omitting the least particular; so that a right judgment may be form'd of the efficacy, or insignificance of the medicine employ'd, and physicians accordingly be encourag'd to have recourse to it upon the like occasions, or taught to reject it. *Baglivi, prax. med. p. 224, &c.*

fore, whoever is possess'd of a medicine, powerful enough to destroy the species of it, justly deserves the appellation of a physician; to which he has no right, who only introduces a new one from the first and second qualities, instead of the former, which may indeed be done without abolishing the species. Thus, for instance, a person that has the *gout* may be heated or cool'd without curing the distemper; specific diseases being not more immediately cur'd by that method, which is only introductive of different qualities, than fire is extinguished by a sword. For pray what does heat, cold, moisture, dryness, or any of the second qualities contribute towards the cure of a distemper, the essence of which consists in none of these?

There are fewer specifics than are imagin'd.

23. But if it be objected, that we have long been possess'd of a sufficient number of *specifics*, I answer, that the contrary will soon appear, provided a strict search be made into this particular: the *Peruvian bark* being the only one we have. For there is a wide difference between medicines that *specifically* answer some certain curative indication, which, being effectually perform'd, perfects the cure, and those that specifically, and immediately cure a disease, without regarding any particular intention, or curative indication. To exemplify this: *mercury* and *sarsaparilla* are usually reckon'd specifics in the venereal disease, tho' they ought not to be deem'd proper and immediate specifics, unless it could be demonstrat'd by undeniable instances, that *mercury* had cured the patient without causing a *salivation*, and *sarsaparilla* without raising a *sweat* (o). For other

(o) I see no just reason for excluding from the number of specific medicines, mercury, as a cure for the venereal disease, milk in one stage of a consumption, opium in pains, soap in some kinds of the jaundice and the stone, the fetid gums in some hysteric disorders, nor oil in the bite of a viper; since they all seem peculiarly adapted to relieve or cure the respective disorders just enumerated.

Besides, to think that not a single specific should have been discover'd by the united labours of a surprizing number of learned and indefatigable men, is more than enough to discourage the most sanguine person from a search that is so little likely to afford him an equivalent for his pains. For if the *bark* be indeed the only specific we have, that was a casual discovery, and not the fruit of study and experience.

other diseases are cur'd in the same way by other evacuations, and nevertheless the medicines exhibited for this purpose do no more immediately contribute to the cure of the diseases that yield to those evacuations, which these medicines are principally design'd to promote, than a lancet does towards the cure of a *pleurisy*; which no body, I imagine, will call a specific in this disorder.

24. Specific medicines, therefore, consider'd in our limited sense of them here deliver'd, fall not to every man's share, and seldom to theirs who take no pains to discover them; and yet I doubt not but out of the overflowing fulness wherewith nature, by the appointment of our most liberal creator, abounds for the preservation of the whole race of mankind, provision is likewise made for the cure of the principal diseases which afflict them, and that by such medicines as are within reach, and the produce of every climate. It is indeed pity that we are not better acquainted with the virtues of plants, which I esteem the best part of the *materia medica*, and most likely to afford such medicines as we have just treated of. For the parts of animals should seem to resemble the human body too nearly, and minerals to differ too much from it; and hence it is I ingenuously own, that minerals more effectually answer indications, than medicines prepar'd from animals or plants do, but yet not specifically, in the sense and manner above-mentioned. For my own part, I can only say that I have spent some years in researches of this kind, yet without succeeding well enough to encourage me to communicate the result of my enquiries. (q)

More might be discovered by taking due pains.

A misfortune that the virtues of plants are not better known.

25. But

(q) There does not seem to be so much reason for this complaint now as there might be in our author's time, much pains having been taken of late years by several skilful persons, both in the way of analysis and experiment, in order to discover and settle their virtues upon a surer foundation. And nevertheless, if this part of the *materia medica* were much more contracted, and plants only of known and approv'd virtues used, the curative method would probably receive very considerable improvements, inasmuch as the prescriber would not be at a loss to chuse in so small a number, and be abundantly better satisfied of what they can and cannot do, by the frequently repeated trials he would be obliged to make of the few that should be judg'd worth retaining.

Other excellent medicines besides plants

25. But tho' I like plants best, yet I would not decry those excellent medicines; the productions of a different kingdom, that have been discover'd by the application of our predecessors, or cotemporaries, and found to answer the curative indications effectually. Amongst these Dr *Goddard's* drops claim the first notice, which are prepared by Dr *Goodall*: I prefer them to all other volatile spirits, on account of their efficacy and virtue in answering the purposes for which they are given. (r)

The author publishes a history of acute diseases.

26. To conclude: having engag'd myself in this preface, to publish a specimen of my labours for the improvement of physick, I will now endeavour to fulfil my promise, by presenting the publick with the history and cure of *acute* diseases. And tho' in executing this design, I am sensible I shall expose all the fruit of my labours for the best part of my life to the indolent and ignorant, yet I am too well acquainted with the disposition of this degenerate age to expect any thing but censure and contumely in return; and know that I should have gain'd more reputation by advancing some trifling and useles speculation: but be that as it will, I hope to be rewarded elsewhere. (s)

27. If

To this may be added, that plants and simple medicines have great advantages over compound: thus they are more safe and certain than the latter, and we are seldomer deceiv'd in them, because they cannot be so readily adulterated, and may be given in substance, or require only a few easy operations to fit them for use; whereas the best compounds are often spoil'd by unskillful preparations.

(r) The medicine that goes under this name is an highly volatile oleous alkaline spirit, drawn from dead silk worms and their remains, and extoll'd for giving relief in convulsions from acidities, or worms: but the present practice takes no notice of it.

(s) Our author, however well he deserv'd of mankind, should seem to have had but too much reason to apprehend that his laudable endeavours to serve them, instead of procuring him their esteem and regard as they ought to have done, would expose him to the envy of the ignorant, the hatred of the vicious, and the contempt of the prejudic'd part of mankind. He expected to meet with little else but censure and contumely from an ungrateful world, in return for his generous and honest labours; and 'tis to be fear'd he was not disappointed in the issue. See pag. 110. par. 40. pag. 272. par. 3. pag. 414. par. 140. pag. 416. & 493.

But what the malice, envy, and prejudice of some of his cotem-

27. If it be objected here, that there are those no less vers'd in practice than I am, who are of a different opinion; I answer, that 'tis none of my business to enquire into what other persons think, but to establish the truth of my own observations; in doing which, I only beg the reader's patience, not his favour, for the subject itself will soon shew whether I have acted with sincerity, or, on the contrary, like the most profligate wretches, endeavoured to destroy my fellow creatures after my decease (*t*). I only beg pardon for having deliver'd the history and cure of diseases with less accuracy than I intended, being sensible that I have not compleated my design, but rather excited men of greater abilities to undertake the finishing of a performance hereafter, that I have here executed imperfectly.

The author only solicitous to establish his own observations.

28. And now I have but one thing more to inform the reader of, which is, that I do not intend to swell the following sheets with a multitude of particular observations in confirmation of the method therein deliver'd; for it would be both needless and tiresome to repeat those things particularly which I have comprised in a summary way. I esteem it sufficient to subjoin occasionally a particular case, containing the substance of the preceding method, at the conclusion of every general observation, at least with respect to late years. And I declare that I have publish'd no general method, that has not been establish'd and verified by frequent experience.

gives few particular observations to avoid swelling the work;

29. Whoever expects to meet with abundance of prescriptions will be disappointed; it being left to the judgment and only a few prescriptions.

temporaries refus'd him living, has been abundantly made up to him since his death; for no one, the great *Hippocrates* himself not excepted, ever stood possess'd of a fairer reputation than he has since enjoy'd, and still bears. His judgment, integrity and candour are universally acknowledg'd and applauded: the physicians of our own nation have recourse to his writings as an oracle, and foreigners never mention him without the most honorable titles, and, to sum up all in one, many of them call him the *English Hippocrates*. We tread in his steps at this day with success, and without the spirit of prophesy I may venture to foretel that our successors will do the same, and that as long as there shall be able and honest physicians, our excellent author will be remember'd with the highest gratitude and esteem, and his methods of practice persued.

(*t*) See p. 345, note (*k*).

judgment of the physician to prescribe as the circumstances may require. I have done my part by mentioning the indications to be answered, and pointing out the time and manner of doing it: for the practice of physick chiefly consists in being able to discover the true curative indications, and not medicines to answer them; and those that have overlook'd this point have taught empirics to imitate physicians.

Apolo-
gizes for
the simpli-
city of the
medicines
he recom-
mends.

40. But if it be objected, that in some cases I have not only renounc'd the pompous part of prescription, but likewise recommended such medicines, as, by reason of their simplicity, have little or no affinity with the *materia medica*; I answer, that I conceive that this procedure will offend none but persons of little understanding and less benevolence; for the wise know that every thing is good which is useful. And that *Hippocrates* in advising the use of bellows in the *iliac passion*, and the total disuse of all medicines in a *cancer*, with other articles of the like nature, which occur in almost every page of his writings, deserves to be esteem'd as able a physician, as if he had fill'd them with the most pompous prescriptions.

31. I intended also to have given a history of *chronic* diseases, at least of those I had most frequently treated; but as this will be a work of labour, and being desirous likewise to see first how these sheets are receiv'd, I shall defer the prosecution of it to some other time. (v)

(v) The author, however, seems to have done this in a summary way in his *processus integri*, here first annex'd to his other works; a very few *chronic* distempers having escaped his notice, as will appear upon turning over this intirely practical performance.

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Of acute Diseases in general.

I. **A** DISEASE, in my opinion, how prejudicial soever its causes may be to the body, is no more than a vigorous effort of nature (a) to throw off the morbid matter, and thus recover the patient (b). For as God has been pleased so to create mankind, that they should be fitted to receive various impressions from without, they could not, upon this account, but be liable to different disorders; which arise (1) either from such particles of the air, as having a disagreement with the juices, insinuate themselves into the body, and, mixing with the blood, taint the whole frame; or (2) from different kinds of fermentations and putrefactions of humours detained too long

Diseases defined.

Their causes.

(a) See the term *Nature* explain'd, *Seet. II. Chap. II. Par. 48.*

(b) In order justly to define a disease in general, it should be first known what health is; a morbid state of the body being correlative to a sound one.—Now if health may be said to consist “in a free and regular circulation, a just mixture and proportion of the blood and juices, the due tone and motion of the solids, and a perfect exercise of the vital and animal functions”, then a disease may be defin'd, “a considerable alteration in the motion, mixture, or quantity of the fluids, a too great tension, or relaxation, and consequently an accelerated or languid motion of the solids, affecting the whole body, or only some parts thereof, join'd with a remarkable disorder of the secretions, excretions, vital and animal functions, and tending either to recovery, death, or the disordering some parts of the body, when the disease terminates in another.”

This definition takes in the whole of what is meant by a disease in general; for it not only clearly shews wherein it actually consists, namely, in a disorder of the vital and animal functions, but includes its immediate cause, which is an augmented or diminished motion in the whole body, or some of the parts, and also enumerates the effects it has on the body.

It should be further observed, that there are abundance of distempers which do not agree with our author's definition of a disease; as for instance a *palsy*, in which it does not appear that there is any morbid matter fixed on the nerves; and all those diseases likewise, which proceed from a weak relaxed state of the solids, or the poorness and languid motion of the fluids, or from both together. By his definition, therefore, it should seem that he had an inflammatory fever chiefly in view, with which, in reality, it best corresponds. The description of a disease, as it appears in all its variety of symptoms in the human body, is ever the best definition that can be given of it: this alone is truly scientific, and rests upon the most solid foundation.

Sect. 1. in the body, for want of its being able to digest, and discharge them, on account of their too large bulk, or unsuitable nature.

2. These circumstances being so closely interwoven with our constitutions, that no man can be entirely free from them, Nature provides such a method and train of symptoms, as may expel the peccant matter that would otherwise destroy the human fabric. And tho' this end would be more frequently obtained by these disagreeable means, were not her method obstructed thro' unskilfulness; yet, when left to herself, either by endeavouring too much, or not enough, the patient pays the debt of mortality; for it is an immutable law that no generated being can always continue. (c)

Illustration 3. A little to exemplify this doctrine: What is the *plague* but a complication of symptoms, to throw out the morbid particles (taken in with the air we breathe) through the proper emunctories, by way of external abscess, or other eruptions? What is the *gout*, but the contrivance of nature to purify the blood of aged persons, and, as *Hippocrates* phrases it, to purge the recesses of the body? And the same may be said of many other diseases, when they are perfectly formed. (d)

Acute diseases whence. 4. But nature performs this office, quicker or slower, according to the different methods she takes to expel the morbid cause. For when a fever is required to loosen the morbid particles from the blood, to promote their separation, and at length discharge them by sweat, a looseness, eruptions, or other similar evacuation; as this effect is produc'd in the mass of blood, with a violent motion of the parts, it follows, that the change, to recovery or death, must be sudden, (according as

Na-

(c) *Constat, æternâ positumque lege est,
Constat ut genitum nihil.*

BOETIUS.

(d) Nothing is more evident than that the body is a *living machine*, so formed that many of its disorders correct themselves, and restore the body to its natural state; whilst others perpetuate and increase themselves, and bring on its destruction. Hence it clearly follows, that 'tis the business of physicians to discover from observation, the several ways leading to these contrary ends, in the several disorders of the body; to promote the first, and oppose the last. Thus, for instance, acrimonious matter in the stomach and bowels occasions a vomiting and looseness; which are sometimes just sufficient to relieve the body, by discharging what is offensive, sometimes fall short of this; and at others are so violent as to end in exhaustion and death. Accordingly the physician ought, in some cases, to give emetics or purgatives, and in others opiates, as experience, with the reasoning resulting from it, shall direct.

Nature can conquer the morbid matter by a crisis, Chap. I. or is forced to submit) and that these efforts must be joined with violent and dangerous symptoms. And of this kind are all *acute diseases*, which come to their state with rapidity, violence, and danger. Now, in this way of speaking, all those diseases may be esteemed *acute*, which, with respect to their fits taken together, go on slowly, but with respect to a single fit are soon terminated *critically*, of which kind are all intermittent fevers.

5. But where the matter of the disease is such that it cannot raise the assistance of a fever, for its thorough discharge, or is fix'd upon a particular part too weak to expel it; either on account of the peculiar structure of that part, (as in the palsy, where the morbid matter is fix'd in the nerves, and an empyema, where, it is discharged into the cavity of the breast) or through a want of natural heat and spirits, (as when phlegm falls upon the lungs weakened by age, or an habitual cough) or lastly, from a continual afflux of new matter, whereby the blood becomes vitiated, and, by its vigorous endeavours to throw it off, overpowers and oppresses the part affected (e); in all these cases, the matter is slowly brought to concoction, or not at all; and therefore diseases proceeding from such indigestible matter, are what we properly term *chronic*. And from these two contrary principles, acute and chronic diseases respectively arise.

Chronic diseases, whence.

6. As to acute diseases, of which I now design to treat, some of them proceed from a latent and inexplicable alteration of the air, infecting the bodies of men; and not from any peculiar state or disposition of the blood and juices, any further than an occult influence of the air may communicate this to the body: these continue only during this one secret state, or constitution of the air, and, raging at no other time, are called *epidemic distempers*.

The causes of acute epidemic diseases.

7. There are other acute diseases, arising from some peculiar indisposition of particular persons; but as these are not produced by a general cause, few are seiz'd with them at once. These also appear in all years, and at any time of the year indifferently, some exceptions admitted, which I shall hereafter mention, in treating of this kind particularly. These I call *intercurrent*,

Intercurrent, or sporadic acute diseases.

Se^ct. I. or *sporadic* acute diseases, because they happen at all times when epidemics rage. I will begin with epidemics, and chiefly propose to give a general history thereof.

C H A P. II.

Of epidemic Diseases.

Epidemic diseases differ surprisingly;

require a different treatment.

1. **I**F one were to examine all the branches of physic, nothing, perhaps, would appear so surprizing as the different, and perfectly dissimilar face of epidemic diseases; which do not so much relate to, and depend upon the various seasons of the same year, as upon the different constitutions of different years.

2. And this manifest diversity of these diseases still farther appears, not only from their proper and peculiar symptoms, but also from the different method of cure they respectively require. Hence it is clear, that these distempers, tho' to less accurate observers they may seem to agree in their external face, and certain symptoms in common, are, in reality, of very different and dissimilar natures. Whether a careful examination, such as, perhaps, could not be well made in the life of one man, might shew, that certain tribes of epidemic disorders constantly follow others in one determined series, or circle, as it were; or whether they all return indiscriminately, and without any order, according to the secret disposition of the air, and the inexplicable succession of seasons, I am not certain.

3. This, however, I am convinc'd of from numerous, careful observations, that the abovemention'd kinds of diseases, especially continued fevers, differ so extremely, that the same method which cures in the middle of the year, may possibly prove destructive at the conclusion of it; and when I had once happily fallen upon a genuine method of treating any species of fevers, suitably to its nature, I always prov'd successful (proper regard being had to the constitution, age, and other particular circumstances of the patient) till that species became extinct, and a new one arose; when I was again doubtful how to proceed, and, notwithstanding the utmost caution, could scarce ever preserve one or two
of

of my first patients from danger, till I had thoroughly Chap. 2.
investigated the nature of the distemper, and then I
proceeded in a direct, and safer way to the cure. 

4. And though I have carefully observed the different constitutions of different years, as to the manifest qualities of the air, that I might from thence discover the causes of the so great dissimilitude of epidemic diseases; yet I must own, I have hitherto made no progress; having found that years, perfectly agreeing as to the manifest temperature of the air, have nevertheless produced very different tribes of diseases; and *vice versa*.

5. The matter seems to stand thus: There are various general constitutions of years, that owe their origin neither to heat, cold, dryness, nor moisture; but rather depend upon a certain secret and inexplicable alteration in the bowels of the earth, whence the air becomes impregnated with such kinds of *effluvia*, as subject the human body to particular distempers so long as that kind of constitution prevails, which, after a certain course of years, declines, and gives way to another. Each of these general constitutions is attended with its own proper and peculiar kind of fever, which never appears in any other; and therefore I call this kind of fever *stationary*. Stationary fevers defined;

6. There are also certain particular constitutions of the same year, in which, tho' such kinds of fevers as follow the general constitution of the year, with regard to the manifest qualities of the atmosphere, may prove more or less epidemic, and rise either earlier or later; yet the fevers that appear in all years (which we therefore call *intercurrents*) do proceed from some one or other manifest quality of the air; for instance, pleurifies, quinsies, and the like; which generally happen when an intense and long continued cold is immediately succeeded by a sudden heat. It may therefore be, that the sensible qualities of the air have some share in producing those intercurrent fevers which appear in every constitution of the atmosphere, but they do not cause the epidemics peculiar to the general constitution. not produced by the manifest qualities of the air.
And yet, at the same time, it must be acknowledged that the abovementioned qualities of the air may more or less dispose the body to the particular epidemic disease; and the same may be affirmed of any error in the non-naturals.

Sect. 1. 7. Now it must be observed, that some epidemic diseases, in some years, are uniformly and constantly the same, appearing in almost every patient with the same train of symptoms, and going off in the same manner. From this kind therefore, as the most perfect, the genuine history of epidemic diseases is to be taken.

Some epidemics regular. Others irregular. 8. On the contrary, in other yeats there are other distempers, which, tho' called epidemic, prove very irregular and dissimilar, as having no one fixt form, or constant appearance, but are extremely irregular, both as to the variety and dissimilarity of the symptoms, and the manner in which they proceed and go off. This great variety in epidemics happens from hence, that every constitution produces diseases considerably differing from those of the same kind, that prevailed in other constitutions, at another time; which not only holds true of fevers, but of most other epidemic diseases.

9. Nor is this all; for there is another subtilty of nature still behind, viz. that the same disease, in the very same constitution of the year, frequently appears in a various and dissimilar manner, as to the time of its beginning, state, and declension; which is an observation of such consequence, as to regulate the indications of cure.

Epidemics either vernal or autumnal. 10. Again, it must be observed, that all epidemics are of two sorts, viz. *vernal* and *autumnal*, and tho' they may possibly arise at a distant time of the year, yet they must be referr'd either to spring or autumn, according as they approach thereto respectively. For sometimes the temperature of the air conspires so much with an epidemic disease, as to produce it before its time; and, on the other hand, it sometimes opposes it so much, as to make it appear later, even in persons disposed to receive it. When therefore I shall mention spring or autumn, I do not precisely mean the *vernal* or *autumnal* equinox, but take in a wider compass.

The course of some vernal ones. 11. Some vernal epidemics appear early, as in *January*, and thence gradually increasing, come to their state about the vernal equinox; after which they gradually decrease, and at length disappear about the summer solstice, except, perhaps, in a very few instances. Of this kind I reckon the measles, and vernal tertians, which, tho' they rise somewhat later, as in *February*,

do likewise disappear near the summer solstice. Whilst others, rising in the spring, and daily increasing, come not to their state till about the autumnal equinox, after which they gradually decrease, and vanish at the approach of winter. Of this kind are the plague and the small-pox, in those years when either of them is the principal disease of the year.

12. The *cholera morbus*, which is of the number of autumnal epidemics, rises in *August*, and finishes its course in a month; tho' there are other diseases which arise at the same time, and run on to the winter; as autumnal dysenteries, tertians and quartans; all which, however, notwithstanding the longer or shorter space they sometimes affect a few particulars, generally cease in two months.

The different duration of autumnal epidemics.

13. As to fevers in particular, it must be observed, that the greatest part of them, which are of the continued kind, have hitherto no names assigned them, as they depend upon the influence of a general constitution or state of the air; but the names whereby they are distinguished are derived from some remarkable alteration made in the blood, or some other apparent symptom; whence they are called *putrid*, *malignant*, *petechial*, &c. But as almost every constitution, besides the fevers it produces, eminently favours some remarkable epidemic disease; as the plague, small-pox, dysentery, &c. I should think that these fevers ought to derive their names from the constitution, as this tends more peculiarly to produce some one of these remarkable distempers, at the time they appear, rather than from any alteration of the blood, or particular symptom; both which may equally accompany fevers of different kinds.

Names of epidemic fevers whence to be taken.

14. Intermittents, indeed, derive their names from the interval of two fits, and by this mark are sufficiently distinguished, provided regard be had to the two divisions of the year wherein they happen, *viz.* spring and autumn. And yet sometimes fevers are of the true nature of intermittents, without any visible sign to discover them by. So when autumnal intermittents enter and appear early, as in *July*, they do not presently assume their genuine form, as vernal intermittents generally do, but so far resemble continued fevers in all respects, as not to be distinguished, without a very

Intermittents, how distinguished.

Autumnal ones sometimes appear as continuals.

Sect. I. strict examination. But, at length, when the force of the prevailing constitution is a little weakened, they appear more genuine, and at the close of autumn, quitting their disguise, plainly manifest themselves to be intermittents either of the tertian or quartan kind, as they really were from the first; but if this be not carefully attended to, physicians will be deceived to the disadvantage of their patients, by taking such kinds of intermittents for true continued fevers.

Some one epidemic usually prevails over the rest,

to the nature of which the rest approach.

Instanc'd in the small pox and dysenteries.

15. Again, it must be carefully remarked, that as many of these diseases appear in the same year, some one or other of them rules over the rest, which rage less at the same time; so that this one increasing, the others decrease, and this diminishing, the others soon re-appear. And thus they prevail by turns, according as each is favoured by the disposition of the year, and the sensible qualities of the air; and that distemper which rages most violently about the autumnal equinox, gives its name to the constitution of the whole year; for whatever distemper then prevails over the rest, will easily be found to preside over them during that year; and to the disposition thereof all the then reigning epidemics accommodate themselves, so far as their nature permits.

16. Thus, for example; when the small-pox prevails much, the fever of that year, which is less general, plainly partakes of the same inflammatory nature therewith; so that both distempers begin after the same manner, and are attended with a great similarity of the most peculiar symptoms, as manifestly appears from the great tendency to spontaneous sweats, and the discharge of *Saliva* in both; and they only differ in the eruption of the pustules, and whatever depends thereon. Again, when dysenteries are the principal raging disease of the year, the fever of the same year bears great resemblance to their nature; excepting only that in a dysentery the morbid matter is discharged by stool, with a few symptoms thereon depending. For they both attack in the same manner, and in both cases *Aphthæ*, and the like symptoms, are equally apt to appear. And indeed the dysentery we speak of, is the very fever itself, with this particularity, that it is turned inwards upon the intestines, and discharges itself that way.

17. But it must be remarked, that this principal epidemic which rages about the autumnal equinox, and lays all waste before it, is check'd upon the coming in of winter; whilst, on the contrary, the lower class of epidemics, subservient, as it were, to that principal one, now chiefly rage, till the said reigning distemper of the year again prevails, breaks their force, and abolishes their very name.

Chap. 2.

Prevailing epidemics check'd by the coming in of winter.

18. Lastly, it must be observed, that whenever any constitution produces various species of epidemics, all these species differ in kind from those which have the same name, but are produced in another constitution. But how many peculiar species soever arise in one and the same constitution, they all agree in being produced by one common general cause, viz. some peculiar state of the air; and consequently how much soever they may differ from one another in appearance, and specific nature, yet the constitution common to them all works upon the subject-matter of each, and moulds it to such a state and condition that the principal symptoms (provided they have no regard to the particular manner of evacuation) are alike in all; all of them agreeing in this circumstance, that they respectively grow mild or violent at the same time. It is further to be noted, that in whatever years these several species prevail at one and the same time, the symptoms wherewith they come on are alike in all.

All epidemics of one constitution produced by one common general cause.

19. Hence we may see how very various and subtle a method nature uses in producing diseases, which no one, I conceive, has hitherto traced in proportion to the dignity of the subject. And it appears, from this short account, that as the specific differences of epidemic distempers, especially fevers, depend upon the secret constitution of the air (a), that those persons labour

The causes of fevers whence to be deriv'd.

(a) It should seem possible, by a set of well-adapted experiments, accurately made, to discover what are usually called the occult qualities of the air, so frequently mention'd by our author, and render them manifest to the senses. And if, by this means, we could come at a tolerable knowledge of the effluvia, salts, and other heterogeneous matters, wherewith the air at different times, and in different countries is replete, it might give us almost a compleat knowledge of the nature of all epidemic diseases that may arise for the future, provided due attention be given at the same time to the age, sex, constitution, manner of living,

Sect. I.  bour unprofitably, who deduce the causes of different fevers from the morbid matter gradually collected in the body ; for it is evident, that if any man in perfect health, should remove to any part of our own country where an epidemic disease rages, he might in a few days be seiz'd with it, tho' it is scarce credible that any manifest alteration should be made by the air in the juices of the same person, in so short a time (b).

Difficult
to lay
down a
general
method of
cure.

20. Nor is it less difficult to lay down general rules for the cure of these fevers, or to fix certain limits for practice. Under so much darkness and ignorance, therefore, my chief care, as soon as any new fever arises, is to wait a little, and proceed very slowly, especially in the use of powerful remedies ; in the mean time carefully observing its nature and procedure, and by what means the patient was either reliev'd or injur'd ; so as soon to embrace the one, and reject the other (c).

21. In

living, &c, of the patient ; all which circumstances being carefully considered, and compared together, might probably direct to rational, fix'd and effectual methods of cure.

The prosecution of this subject by experiment, and not by way of conjecture, or hypothesis, is surely worthy the notice of all such as have leisure and abilities for the undertaking ; since very considerable advantages will accrue to mankind when once a history of this sort shall be in some measure compleated. The excellent Mr Boyle has made great advances herein, and laid down the methods that should be followed, in order to succeed in the attempt.—See Dr Shaw's *Abridgment of his Works*, in 3 Vols. 4to ; Arbuthnot on air ; Dr Hales's *statical Experiments*, and Huxham *de aere et morb. epid.*

(b) There is a possibility that persons, seemingly in perfect health, may have the principles, or *semen*, of some disease, actually existing, but lying dormant in the juices ; in which case the disease cannot be said to be produced, or caused, but only stirr'd into action by the secret constitution of the air. Is not this verified in many instances of persons seiz'd with the small pox, &c ? If so, the morbid matter collected in the body, how little soever it be in quantity, may sometimes principally contribute to the production of some particular disease thereon depending, contrary to what our author seems to allow. But whether it proceeds from any heterogeneous matter, or from the blood's attempting a new change, our author judges the indications in either case to be the same ; whence this should seem a matter of so little consequence, as not to deserve a serious dispute.

(c) Might not a due regard to the preceding and the then reigning manifest temperature of the air, the manner of living, constitution, age, and sex of the patient, together with a strict attention to the first symptoms of any epidemic fever, enable the physician to proceed with greater certainty in the method of cure, than our author seems to judge possible ?

21. In short, to reduce all the species of epidemics into classes, according to the variety of their appearances, to explain their peculiar signs, and point out the proper method of cure for each, is a very difficult task, and requires much time; and as they arise in no stated order of years, (at least this is not yet discovered) to procure a just collection of observations about them, would perhaps require more than the life of any one physician; yet this task, how difficult soever, must be perform'd, before it can be justly said we have done any thing considerable towards discovering the intricacy of these disorders.

Chap. 2.

Epidemics not easily class'd and explain'd.

22. But how shall we give an account of the distinct species of epidemics, which not only, so far as appears, arise fortuitously, but also continue of the same kind for a single year, or some certain series of years; but in another year differ from each other specifically? The best method I can pitch upon is that which describes them thro' a competent number of years, in the same order in which they happened; and to do this at present, according to my ability, I will here deliver the history and cures of those epidemics which rag'd from the year 1661, to 1676, viz. the space of 15 years; and this, according to the most accurate observations I have been able to make. For it seems to me impossible to do any thing to this purpose, by endeavouring to assign their causes, as deriv'd from the manifest qualities of the air; or from any particular indisposition in the blood and juices, unless so far as this may depend upon a secret influence of the air. And it would be still more impossible to set down the species of various epidemics, as arising from some specific alteration of the air, however easy this might seem to those who can affix the names of fevers to ill-form'd notions, from the speculation of such alterations as may happen in the blood, or juices, by any particular degeneration of principles. By this means, indeed, whilst we depart from nature, which is always the best guide, and indulge ourselves the liberty of conjecture, we may make as many species of diseases as we please; tho' at the same time we take such a liberty as no one would easily grant to a botanist, who, in writing the history of plants, is oblig'd to abide by the testimony of the senses, and not indulge his talent

Best distinguished by describing them.

Sect. I. at conjecture, however excellent he may be therein?
 23. I presume not here to deliver any thing perfect, not even in enumerating the whole class of epidemics; much less will I answer for it, that the diseases I mention, as following one another, in the order I set them down, shall keep the same order hereafter. The thing I endeavour is to shew, by the assistance of a few years observations, how this matter stood lately with respect to my own country, and the city wherein I live; in order to assist in beginning a work that, in my judgment, will greatly tend to the advantage of mankind, when, at length, it shall be finished by posterity, and the whole series of epidemics be exhibited to view, as they shall succeed each other for the future (d).

C H A P.

(d) There are many particulars in this second chapter, which seem rather suited to favour an hypothesis, than taken from fact. That many acute distempers are epidemic is certain, and it is also certain that many epidemics of the same name are of different natures. But that epidemics are not considerably influenc'd by the sensible qualities of the air, has never yet been proved for want of sufficient observation. On the contrary, so far as observation hitherto reaches, it strongly favours the opposite opinion. Whoever considers the remarkable alterations the air frequently suffers in point of gravity, elasticity, heat, cold, dryness and moisture, together with the infinite diversity of its contents, which are likewise perpetually varying, will, doubtless, conclude that the several epidemics, arising at the same time, must needs be rendered more or less violent and dangerous, according as the prevailing constitution of the air is more or less disposed to conspire therewith. And this, indeed, seems fully confirmed by modern observation. But whatever be the cause of the epidemic, it should seem that the treatment thereof were best deduced from its symptoms, compared with the age, constitution, &c. of the patient; and not, as the author seems to intimate, that the same distemper, to all appearance, shall require different methods in different constitutions of the air. For, if it be different in its appearance, no wonder it should require a different treatment. See Wintringham's *commentarium nosologicum*, Huxham's *observationes de aere et morbis epidemicis*, and the edition of our author's works, printed at Geneva, in 4to. 1716, to which is added, a number of treatises on various epidemic distempers, and constitutions of the air, by different authors.

C H A P. III.

The epidemic Constitution of the Years 1661, 1662, 1663, 1664, at London.

I. **T**HE autumnal intermittent fevers which had reign'd for several years backwards, appeared with new force in the year 1661, especially a bad kind of tertian, about the beginning of *July*, which continually increas'd, so as to prove extremely violent in *August*, seizing almost whole families in many places with great devastation; after which it gradually decreased upon the coming on of the winter, so as to appear seldom in the month of *October*. The symptoms that attended these tertians differed from those of the intermitting tertians of other years, chiefly in the following particulars: (1^o) the fit was more severe; (2) the tongue more black and dry; (3) the intermission between the fits not so manifest; (4) the loss of strength and appetite greater; (5) a greater tendency to a double fit; (6) all the concomitants in short more violent; (7) and the disease itself more mortal than intermitting fevers usually are; (8) when it happened in persons aged, or of a bad habit of body, where, besides, either bleeding or any other evacuations had diminished the strength, it would continue for two or three months.

The tertian of this constitution described;

2. A few quartans accompanied these tertians, but both of them went off upon the first coming on of winter, (for they seized upon none that were unaffected by them before) and were followed by a continued fever, differing from the nature of autumnal intermittents only in this; that *they* happened at stated times, but *this* without intermission; for they both seized almost in the same manner, and those that were violently attack'd with either had a vomiting, dryness of the external parts, thirst, and blackness of the tongue: sweats also, towards the end of the distemper, readily discharged the morbid matter in both cases.

followed by a continual fever,

3. And it may even from hence appear that this fever belonged to the class of autumnal intermittents, because it very rarely shewed itself in the spring. This con-

resembling the foregoing intermittents

Sect. I. continued fever, therefore, appeared to me a kind of compendium of the intermittent; as, on the other hand, each single fit of the intermittent was a kind of compendium of the continued fever. The difference between them consisted chiefly in this, that the continued fever finished its period of effervescence all at once, in the same constant course; but the intermittent, by fits, at different times.

Only one species of a continued fever from 1661 to 1665.

The order of the epidemics of this constitution.

4. How long this continued fever had prevailed, I cannot say, having been hitherto sufficiently employed in observing the general symptoms of fevers, and not yet finding that fevers might be distinguished, with regard to the various constitutions of different years, or the different seasons of the same year. This, however, I know, that there was only one species of continued fevers to the year 1665, and that the autumnal intermittents, which were frequent to that year, appeared afterwards very rarely.

5. The abovemention'd tertian fever, which spread very wide in 1661, as was said above, contracted itself in the succeeding year; for in the following autumns, quartans prevailed over the other epidemics, during this constitution of the air. As the quartans always grew milder after the autumn, the continued fever, which appeared more rarely during all this time, now raged more violently till the spring, when vernal intermittents succeeded, which also going off at the beginning of *May*, the small-pox appeared a little, but disappeared again upon the coming in of the autumnal epidemics; *viz.* the continued fever and quartans, which then reigned. In this order did the epidemic diseases appear and succeed each other, during this whole constitution of the air; of which I am now to treat in particular, especially of the continued fever, and intermittents, whether vernal or autumnal, these being the chief distempers of this constitution.

This continued fever, of a capital kind;

6. I begin with this continued fever, which appears to me of a more capital kind than any of the rest; because nature here brought the febrile matter to a due concoction, and expelled it when concocted, in a limited time, more uniformly and regularly, than in any other fever. Moreover, as those constitutions of the year which favour autumnal intermittents return more frequently, taking one year with another, than such as

produce other epidemics, it follows that the continued fever attending intermittents occurs oftener than any other continued fever.

Chap. 4.

7. Besides the symptoms which accompanied other fevers, the present fever had these in particular; *viz.* (1) a great faintness, (2) vomiting, (3) a dry and black tongue, (4) great and sudden loss of strength, (5) a dryness of the external parts, (6) the urine constantly either turbid or thin, both of them here equally signs of crudity, (7) a looseness in the decline, unless the physician happened to stop it at first, whereby the disease was prolonged, and rendered more obstinate; (8) but in its own natural course it scarce lasted above fourteen, or one and twenty days (*a*), when it went off, with a sweat, or rather a gentle moisture; (9) nor did any proper signs of concoction appear before in the urine; but at this time there generally did.

Occurs oftener than the rest.

Its symptoms.

8. Other symptoms also arose when this distemper was unskilfully treated; however, as not only these, but the nature of the distemper itself will more clearly appear, from the particular method which I formerly adapted to this fever, I shall here set it down, as it was then published; at least as far as it regards the present purpose: though at that time I was not aware of there being any other species of fever in nature.

C H A P. IV.

The continued Fever of the Years 1661, 1662, 1663, 1664.

MY first observation is, that the irregular commotion raised by nature in the blood, either as a cause or concomitant of this fever, is excited in order to separate from it a certain heterogeneous matter contained therein, and prejudicial thereto; or else to change the blood itself into a new state.

Final cause of the commotion of the blood in this fever.

2. And here I rather chuse to make use of the general word *commotion* than *fermentation* or *ebullition*; in order

The term *commotion* preferred

(*a*) Does it appear from experience that any fever, which is not brought to a crisis in 14 days, is disposed to run on to 21? Or is not this notion with some others of the like kind taken from the antients, and first by them, from some fancied harmony between numbers and the continuance of fevers?

Sect. I. order to prevent all fruitless disputes about words, that might arise from the use of those, which, tho' they may seem harsh and metaphorical to some, are capable of a commodious interpretation. For tho' the commotion of the blood in fevers docs at different times resemble the fermentations and ebullitions of vegetable liquors; yet there are those who think this commotion very different from both in more respects than one. For example, say they, fermenting liquors acquire a vinous nature, so as to afford an inflammable spirit by distillation, and to be easily turned into vinegar, which yields an acid spirit by the same treatment; yet neither of these changes have been hitherto observed of the blood. Again, fermentation and depuration are both carried on at one and the same time in vinous liquors; whereas the depuration of the blood in fevers does not accompany, but follow the analogous operation; as appears even to the eye, by the solution of a fever-fit by sweat.

Ebullition
esteemed
the impro-
perest
term.

3. As to ebullition, this analogy, they say, is still more harsh, and, in many cases, contrary to experience, where the commotion of the blood is too gentle to deserve the title of ebullition. But not to engage in these controversies; since the terms *fermentation* and *ebullition* have prevailed among the modern physicians, I likewise have not scrupled to use them occasionally, meaning only to convey my thoughts more easily thereby. Moreover, that this febrile commotion of the blood is raised by nature, in order to separate an heterogeneous and noxious matter, appears from eruptive fevers, in which an excrementitious matter, of a vitiated quality, that lay concealed in the blood, is, by means of the ebullition, thrown out upon the skin (*a*).

4. Nor is it less clear to me, that a febrile commotion of the blood often tends only to introduce a new state of that fluid, and that a man whose blood is pure and untainted may be seized with a fever; for fevers frequently appear in healthy bodies, where there was before

(*a*) In eruptive fevers the disorders of the pulse go off entirely, or abate very much upon a free eruption; and in the small pox the matter deposited in the pustules becomes infectious after a time. It seems therefore to have been morbid matter originally, which, while it circulated with the blood, occasioned a great commotion in it, agreeably to our author's notion.

for no previous indisposition, either from a plethora, Chap. 4.
cachexy, or tainted air, that could give rise thereto. 

Yet even in these cases, upon some remarkable preceding change of the air, diet, and others of the non-naturals a fever presently arises, upon account of the blood's affecting a new state, or disposition, such as this air and diet require, and not because the irritation of vitiated particles, latent in the blood, brings on the fever (*b*). Tho' I make no question but the matter regularly discharged in the despumation of the blood, after the febrile commotion, may prove vitiated, tho' the blood before was healthy: Which is not more strange perhaps than that some parts of our food should become corrupt and fetid, after having undergone a remarkable alteration in the body, and suffered a separation from the rest (*c*).

5. With regard to this disease, I judge that the genuine indications are, to keep the commotion of the blood within such bounds as suit the design of nature; so as to prevent its rising too high on the one side, whence dangerous symptoms might follow, or sinking too low on the other, whereby either the exclusion of the morbid matter might be hindered, or the endeavour of the blood affecting a new state be frustrated. And hence, whether the fever be owing to the irritation of any heterogeneous matter, or to the blood's attempting a new change, the indication of the distemper will, in either case, be the same, and upon this foundation I

The commotion of the blood to be duly regulated.

(*b*) This does no way appear; why may not the diet, air, &c. have already changed the blood before the fever begins? There is in all this too much speculation concerning causes, with which, and especially final ones, practice has little to do. The same advancement of theory which opens causes to us, will probably discover the uses to be made of them; but we are yet far short of this. The best encomium that can be given to our author's theory is, that it should seem to have been formed after he had determined his practice, and entirely made to bend to this. So that it is in effect no more than a plausible way of talking, and of gratifying the restless craving of the fancy after sensible images representing the manner and progress of the effects. Many persons ask more than is reasonable from physicians in accounting for things, but then they are often content with less than they ought. A lively metaphor, or a strong contrast of words, are often satisfactory.

(*c*) All this requires to be verified by experience, laying aside metaphor and analogy.

Sect. I. proceed to the cure in the following manner (*d*).

Bleeding
where
prejudi-
cial;

6. When the blood is weak (*e*), as it generally is in children, or wants its due proportion of spirit (*f*), as in declining age (*g*), or even in young persons worn out by a lingering illness, I refrain from bleeding: Otherwise the blood, being already too weak even without taking any of it away, might prove absolutely unequal to the business of despumation; whence the whole mass becoming corrupted, death might easily ensue. Thus a hasty check can scarce be put to the fermentation of wine, without injuring the liquor: For nature cannot bear the corrupt particles she has once begun to throw off, which tho' they were pure, whilst equably mix'd with the blood, now strongly tend to taint the rest of the juices. I am well aware, however, that where bleeding has been imprudently used, the patient may be sometimes saved by means of proper cordials, and the blood reduced to a proper temper for performing the necessary despumation: But prevention is better than cure.

where ser-
viceable.

7. When the blood happens to be of a contrary disposition,

(*d*) The practice is, as we here see, to be regulated by the degree of the commotion, and the proper degree of this, as we shall see presently, by the symptoms. But why then could not the practice be regulated by the symptoms, without starting an hypothesis, so difficult both to be defined and proved? This should be a caution to every man to stand on his guard; since so excellent a practitioner, and so professed an enemy to theory, could not forbear entangling his practice with an hypothesis, which is rather a figurative description, than an explicit detail of the steps which he supposes nature to take, and for which he has produced no solid authority from facts.

(*e*) How does the weakness of the blood discover itself to the senses? By the too small proportion of *Crassamentum*? Whatever it be, it ought to have been mentioned particularly, and the reason taken from thence, if it afforded any: If not, still there lies an appeal to experience.

(*f*) This again, I presume, can never be made out to the senses.

(*g*) Old persons seem to bear bleeding better than either of the others. However, the practical doctrine here delivered is very good: Only it would have been much easier, and more satisfactory to have founded it upon experience, or at least upon obvious reasons immediately resulting from thence. Thus in children, and persons exhausted by a preceding disease, the quantity of red blood is less in proportion to the quantity of the other fluids, than in robust and grown persons; neither do their relaxed vessels compress the fluids so strongly, and turn them into red blood so fast. They cannot, therefore, support the loss of red blood so well.

position, as it usually is in young persons of a strong and sanguine habit, I esteem bleeding the first step to the cure, and not to be omitted without danger, except in the cases hereafter mentioned. For without it not only deliriums, phrensies, and the like disorders from inflammation might arise from too great an effervescence of the blood, but also the circulation might be obstructed, or the whole mass, in a manner, stagnate from its excess in quantity (*b*).

8. As to the proportion, I usually take away no more than I conceive may prevent those inconveniencies, which, as we said above, might proceed from an immoderate commotion of the blood (*i*): Afterwards regulating the degree of heat, by repeating or omitting bleeding occasionally, together with the free or sparing use of warm cordials, and lastly by the use of laxatives or astringents, as I observe the commotion to prevail or languish.

9. After bleeding, where it was necessary, I carefully enquire whether the patient has had any vomiting or retching at the beginning of the fever; and if he has, I order an emetic, unless the tender age, or some remarkable weakness, of the patient should contra-indicate (*k*). Where a retching has preceded, a vomit is so necessary,

In what proportion to be used.

A vomit, where necessary, and where not.

(*b*) Surely a description of the distemper to be here treated by a regular detail of the symptoms ought somewhere to have been premised. It is true indeed, that a strong constitution can hardly have any fever, where bleeding is not required; but an enumeration of the foregoing and present symptoms would have illustrated and confirmed this in an eminent degree, as we see by the few consequent ones that are nam'd.

(*i*) Here it should have been particularly specified what degree thereof is to be esteemed immoderate.

(*k*) If the patient has sick fits and vomitings, and upon enquiry you find he has eat or drank any thing disagreeable; or if a copious, bilious, pituitous matter is brought up, it will be proper, first of all, to exhibit a gentle *emetic*, after a sufficient quantity of blood has been drawn off, in proportion to the strength of the body, and violence of the disease. What advantages may be reaped from *vomiting* in the *beginning of acute fevers*, will easily appear from the subsequent reasoning.

I. It discharges any bilious, pituitous, or indigested matter which might otherwise lie in the stomach, and irritate it into frequent motions to vomit; and which, if it was not thrown off, would putrify, corrupt, and grow acrid and corrosive: whence oftentimes arise dangerous diarrhoeas, towards the height of the fever, for want of vomiting in the beginning.

Sect. I. necessary, that unless the humour be expelled, it produces several other different symptoms, not easy to be removed in the course of the cure, and highly dangerous to the patient. The principal and most common of these is a looseness, which generally happens in the decline of the fever, if emetics were omitted when they were indicated; for in the progress of the distemper, when nature has in some degree subdued the malignant humour in the stomach, and thrown it lower, it, by its sharpness, and the constant supply derived from above, so corrodes the intestines, that a looseness must necessarily follow (*l*). I have however observed in such inflammatory fevers, as are commonly called malignant, that tho' a vomit has been omitted, when retchings at first appeared, yet a diarrhoea does not necessarily follow, as it did in the present: But more of this hereafter (*m*).

A looseness happens, if not given when required.

But not always in malignant fevers.

Danger of the looseness.

10. Now the danger of this diarrhoea lies here, that it farther debilitates the patient, already sufficiently weakened by the disease, and, what is still worse, happens in the decline of the fever, when the blood ought to collect itself, and exert its force to finish the business of despumation, but is hindered by this evacuation.

Generally check'd by a vomit.

11. What makes it still plainer, that this humour lodged in the stomach, if not discharged by a vomit, may bring on a looseness afterwards, is that, upon examination, we scarce find any instance of a looseness attending this fever, but where the patient was apt to vomit

II. It opens the secretory and excretory ducts of the glands of the *fauces, oesophagus, stomach, intestines, spleen, liver, pancreas, omentum* and *mesentery*; and unloads them of a great quantity of viscous phlegm, and bilious matter.

III. By the forcible contractions of the muscles in vomiting, they shake, agitate, divide, and attenuate the *lentor*, and thereby promote the secretions and excretions, as is evident from the profuse sweats that always break out after plentiful fits of vomiting. See Langrish's *Modern Theory, &c. of Physic*, p. 144, &c.

(*l*) This is certainly a sufficient reason for a vomit, but as strong a one, at least, for a gentle purge.

It can hardly be supposed (considering the quantity of liquids drank in the course of a fever, and the medicines exhibited) that the very identical humour which produced the disorder at first, by being actually lodged in the stomach, is preserved there till the decline of the fever, in such an unaltered state as to occasion a looseness.

(*m*) See below, *Par. 11. 50, 51.*

vomit at the beginning, and an emetic was not given (*n*): Chap. 4. as, on the other hand, tho' this inclination to vomit be over, yet the looseness generally stops upon giving a vomit, provided the patient be strong enough to bear it: and I have frequently observed, that upon the coming on of a looseness in this case, astringents, either internally or externally given, have very little, if any force in stopping it (*o*). Astringents ineffectual.

12. The emetic I generally used was of this kind.

Take of the infusion of Crocus metallorum, otherwise called vinum benedictum, six drams, oxymel of squills, and compound syrup of scabious, each half an ounce: mix them for a vomit. A vomiting draught.

I directed it to be given in the afternoon, two hours after a light dinner; and to make it work the safer and better, ordered three quarts, or a gallon of posset-drink to be in readiness, because this kind of emetic is dangerous unless plentifully diluted; and therefore as often as the patient vomited, or purged, he was directly to take a draught of the posset-drink, by which means griping was prevented, and the vomiting rendered more easy (*p*). Antimonial vomits require plentiful dilution.

13. When I have sometimes happened carefully to examine the matter here thrown up by vomit, and found it neither considerable in bulk, nor of any remarkable bad quality, I have been surprized how it should happen that the patient has been so much relieved thereby: for as soon as the operation was over, the severe symptoms, viz. the nausea, anxiety, restlessness, deep sighing, blackness of the tongue, &c. usually abated, and went off, so as to leave the remainder of the disease tolerable (*q*). Vomiting of admirable service.

B 3

14. We

(*n*) This is an instance of the practical reasoning.

(*o*) These positions are abundantly confirmed by experience.

(*p*) There ought to be no delay in giving a vomit, for a quart of water-gruel, posset-drink, &c. will at any time render its operation more gentle than a light dinner, by being drank a little before.

(*q*) The difficulty our author lies under here, in accounting for the relief obtained by a vomit, seems to proceed either from his having not known, or not sufficiently considered the good effects vomits produce beyond the *primæ viæ*, by the considerable shock they give to all the parts. As to the discharge being

Sect. I.

Bleeding
to be first
used, if
also re-
quired.

14. We should not omit, that if the state of the patient requires both bleeding and vomiting, it is safest to bleed first, and give the vomit afterwards; otherwise there would be danger that, whilst the blood-vessels are greatly distended, the violent motion in vomiting might burst the vessels of the lungs, or hurt the brain, and occasion a vomiting of blood, or a mortal apoplexy: of which I could give some instances, if it were proper, but my design is only to caution (*r*).

A vomit
when to
be given.

15. As to the time of giving a vomit, I would have it done at the beginning of the fever, if possible, in order to prevent those terrible symptoms arising from a collection of humours in the stomach, and parts adjacent; and thus, perhaps, the distemper may be crush'd in the beginning, which might otherwise increase, and prove both obstinate and dangerous, whilst supplied by these humours, which, entering into the recesses of the body, may mix with the mals of blood, or, growing more corrupt by longer continuance, communicate a malignant quality thereto. We have an instance of this in the *cholera morbus*, where, if we sometimes unseasonably endeavour to stop the vomiting, either by *laudanum*, or astringents, and the attempt succeeds, we bring on a no less dangerous train of symptoms. For the acrimonious and corrupt humours, which ought in some measure to be discharged, being by this means detained, exert their force upon the blood, and raise a fever, which usually proves of a bad kind, and is accompanied with dangerous symptoms, so as scarcely to be removed without giving a vomit, even tho' the patient has then no tendency to such an evacuation.

Vomiting
not to be
stopp'd
unseason-
ably in the
*cholera
morbus*.

16. But

being small, that almost always happens in case a surfeit has not preceded from overloading the stomach with solid or fluid aliment, or both: for acute diseases are perhaps not so much owing to an excess in the quantity of the juices, as to some ill quality they may have contracted, from a surprisngly minute portion of morbid matter of a certain kind, as is manifest in several epidemic diseases. And indeed our author assures us, and daily experience confirms it, that persons, apparently in good health, may be seized with distempers, according as the latent or sensible qualities of the air are disposed to taint their juices, and those, on the other side, are fitted to receive the infection. See Sect. I. Chap. II. Par. 19. and Chap. III. Par. 4.

(*r*) This is an extremely useful caution, and appears to have been derived from observation, whence all our reasonings in physic, to make them truly advantageous, should be drawn.

16. But if, as it frequently happens, the physician is called so late; that a vomit cannot be given at the beginning of the fever, yet I should judge it proper to give one at any time of the distemper, provided the patient is not too weak to bear it (s). I have successfully ordered an emetic on the twelfth day of the distemper, even tho' the spontaneous retchings were over; and by this means have stopp'd the looseness that hindered the blood from finishing its depuration, and I should not scruple attempting the same later, if the strength of the patient permitted (t).

Chap. 4.

17. In the evening, after the operation, I always endeavour to quiet the disturbance raised in the juices by the emetic, and to procure sleep; and therefore direct a paregoric draught to be taken at bed-time after the following manner:

An opiate to be given in the evening.

Take of the distill'd water of red poppies, two ounces, Aqua mirabilis, two drams, syrup of white and red poppies, each half an ounce: mix the whole for a draught (u).

A quieting draught.

18. But if there be no danger in raising too great an effervescence in future, either on account (1.) of plentiful bleeding, used in the course of the cure, (2) frequent vomiting or purging upon the use of an emetic, (3) the present disappearance of the fever, (4) its mildness, or (5) its natural decline; then instead of the draught above set down, I give, without apprehension, a sufficiently large dose of diascordium, either alone, or mixed with some cordial water: and this is an excellent medicine, provided it be given in a suitable quantity (w).

Or a large dose of diascordium.

19. Under

(s) And where a particular symptom required, as appears by what follows.

(t) See below, Par. 51.

(u) The opiate here ordered is indeed gentle, but the reasons here given are not very satisfactory, and practice determines opiates to be in general pernicious in fevers. Most persons sleep in fevers after the proper evacuations of bleeding, vomiting and purging, or blistering; and without these helps, opiates often fail.

(w) It may be questioned, whether the cases here describ'd be not those in which the fever is overcome, and by consequence where good nursing is sufficient, especially with the addition of almost any cordial. If so, diascordium is the worse

Sect. I.

*Vinum be-
nevolentum*
unsafe in
children
under 14.

19. Under the article of vomits, we should not omit to observe that it is by no means safe, at least in this fever, to give such as are made with the infusion of *crocus metallorum*, even in the smallest quantity, to children under the *age of 14*. It were indeed to be wish'd that, instead of this emetic, we had others of a safer kind, yet so sufficiently efficacious, as thoroughly to discharge the humour, which in the decline of this fever generally brings on a looseness; or at least were possessed of some proper remedy for changing (*x*) or dissolving this corrosive matter, and blunting its force, so as to hinder it from producing a diarrhoea. It has often been a difficulty with me, when called to infants and children in a fever, and observing an emetic indicated, whereby they might have been preserved from danger, that I durst not give this infusion for fear of a bad consequence (*y*): but in grown persons I have hitherto found no ill effect

in this case for the opium it contains, wherein, however, its efficacy should chiefly seem to consist; for opium is apt to pall the stomach, and sink the spirits. And many persons fall into a sound sleep naturally when the fever is gone, and this is much more refreshing than that procured by opiates. A grateful wine seems here a better opiate than any thing, if used moderately.

It must be owned, that opiates often raise the spirits, and prove a noble cordial, particularly in weakness occasioned by grief, if not given in large quantities, and likewise in some hysterical disorders. Another observation to be made here is, that many persons after the fever is gone off do not get much sound sleep for some time, but are often a fortnight without having a good night's rest, and come to it very gradually and slowly.

(*x*) Tassaceous powders seem to answer this purpose very well.

If the humour here mentioned appears to be of the acid kind, tassaceous powders will have a good effect; but the nature of it should be previously learnt to enable the physician to direct a proper remedy, otherwise it is prescribing empirically, and at random.—And further, as the looseness may sometimes be *critical*, which a diligent observer will soon discover, it should not in that case be stopped, but only moderated if there be occasion, and the patient's spirits kept up by smooth nutritive liquid food, given warm in small quantities and often, and by proper cordials.

(*y*) Surely the author knew the safe emetic virtue of oxymel of squills, which he has prescribed in this very vomit; tho' he was unacquainted with the ipecacuanha, and the safe ways of giving tartar emetic to children.

By reason of a peculiarity in some constitutions, it sometimes happens that *oxymel of squills* proves as violent an emetic, as

effect from it, provided it were given with the cautions abovementioned (z). Chap: 4.

20. When the affair of vomiting is over, I next consider,

(1) Whether, notwithstanding the preceding evacuations, the blood may not still hurry on so fast as to require a check ; or

(2) On the other hand, whether it may not languish so much as to require quickening ; or lastly,

(3) Whether the fermentation is now brought to such a proper state, or degree, as that it may be safely left to itself.

Something must be said to each of these cases (a).

21. (1) If the blood hurries on so fast as to give a just suspicion of a delirium, or other bad symptom coming on, the day after the emetic I generally prescribe a glyster.

A glyster to be given occasionally..

Take of the common decoction for glysters, one pint ; syrup of violets, and brown sugar, each two ounces : mix them for a glyster.

This glyster I order to be repeated occasionally, by which means the blood is often so refreshed and cooled, as sufficiently to check its effervescence. It sometimes likewise becomes necessary to repeat bleeding once or twice ; as particularly in persons of a very sanguine constitution, and in the prime of life, or such as have inflamed their blood by using wine too freely : tho' there is seldom occasion for so capital a remedy as repeated bleeding, and therefore glysters may suffice to check the effervescence, except in the cases just now mentioned. If therefore the effervescence of the blood be too high, I order a glyster to be injected, every day, or every other day, as the case requires, till about the 10th day of the distemper (b).

22. But

antimonial wine: so it is safest to give something less than a full dose.

(z) See above, *Par.* 12.

(a) Each of these must be determined by the symptoms ; why then should not one have immediate recourse to the symptoms ? The author has said above, that **e u** is the words *fermentation* and *effervescence*, rather as word: **com** only used, than as having any precise meaning in fevers.

(b) This practice of giving glysters is certainly very good, but a purge, stronger or weaker, according to the violence of the

Sect. I.

Cautions
relating to
glysters.

22. But when a large quantity of blood has been taken away, or the patient is in years, I at this time order no glyster, tho' the effervescence of the blood should be considerable: for, in these cases, as we need not fear its rising so high, without the use of glysters, as to bring on any great and dangerous symptoms (*c*); so, on the other side, it is certain that the strength and texture of the blood may be so impaired and relaxed by the use of them, as thus to disturb and hinder the procedure of nature, especially if the patient be in years; for glysters do not succeed so well in the old as the young (*d*). But if only little blood has been taken away, then, as was said before, I continue the use of glysters to about the 10th, and sometimes to the 12th day (*e*); as particularly when I durst not bleed at all. For some persons are seized with a continued fever, after an autumnal intermittent, whether tertian or quartan, for want of purging at the close of the preceding distemper; and if blood should be taken away in this case, there is danger of the sediment, deposited in the former fermentation, being re-absorbed into the mass of blood, and occasioning fresh disorders. Instead of bleeding therefore in such cases, I continue

the symptoms, their particular nature, and the strength of the patient, is, in general, greatly to be preferred. For the heat of a fever renders the contents of the intestines very fetid and acrimonious, the secretions of the liver, *pancreas*, &c. are often disturbed both in quantity and quality, and the digestion very imperfect; for all which reasons the present contents of the intestines at least ought to be removed. And tho' bleeding cools and relieves more immediately than purging, yet purging does it in a very lasting manner, and disposes to quiet natural sleep. See Langrish's *Mod. Theory of Physic*, p. 174, &c.

(*c*) This is contradicted by practice, and here his theory seems to have misled him. There are many bad febrile symptoms with a weak pulse.

(*d*) What our author means by saying the strength and texture of the blood may be impaired and relaxed by glysters, and the like expressions, which occur so frequently in his writings, is not easy to conjecture.—This way of talking is very inaccurate, if not absolutely false: for do glysters bring away any part of the *crassamentum* of the blood? and is it not more obvious and natural to suppose that they relax and impair the solids, and that by this means the patient is weakened?

(*e*) Surely the procedure here ought to be regulated by the state of the symptoms, not the days, and the symptoms particularized.

to use glysters to the 12th day, if the patient be young, Chap. 4. and the fermentation too violent (*f*).

23. (2) On the other hand, whether bleeding has been used, or not, if the effervescence of the blood sinks too low, and requires raising in order to assist nature in her work; in this case I judge that no glyster should be injected even before the 10th day, and much less afterwards. Otherwise we might thus farther check the fermentation, now already too languid of itself. But to use glysters after this time, *viz.* in the decline of the distemper, would be as absurd, as to stop the fermentation of wine, before the despumation was performed, by opening a large vent-hole: for a glyster here would hinder nature in her vigorous endeavour to throw off the morbid matter (*g*).

24. But when once the patient is out of danger from those symptoms arising from too great an ebullition, either by means of proper and seasonable evacuations, or that the disease begins to decline, the more costive he is kept, the more secure I judge him; the febrile matter then proceeding more kindly and gently to concoction. And, therefore, if the preceding evacuations should either actually dissolve, or tend to dissolve, the mass of blood, or the fever go off before its due time, or before it is come to its full period, I not only refrain from the use of glysters, but also call in the assistance of cordials, and directly endeavour to prevent a purging (*h*).

25. Cordials, as I have experienced, when given too soon, do mischief, and, unless bleeding has preceded, may derive the crude matter of the distemper upon the membranes of the brain, the *pleura*, &c. and there- Cordials when to be given.

(*f*) Here again the symptoms should be named. General directions are of little use, as they may be made to suit very different sorts of practice. And besides both the reason and criterion are taken from a theory, which is either false or unintelligible.

(*g*) The true practice here is to give glysters, if wanted, and join the assistance of cordials and blisters: theory has a great share also in this direction.

(*h*) It is very true that in cases of extreme weakness a single stool is dangerous: and in less degrees of weakness purging is improper, unless there be reason to judge that the intestinal contents are preternaturally irritating and acrimonious; *viz.* unless this appears by the symptoms, from whence alone all indications ought to be taken.

Sect. I. fore I never give them when either no blood, or very little has been taken away; or when no other considerable evacuation has been made; or the patient has not passed the meridian of life (*i*). For whilst the blood remains rich enough of itself, it should not be more enriched to the endangering the patient; nor does it require to be raised, so long as no remarkable evacuations have diminished its natural heat. Such kind of patients have cordials within them, which render external ones either needless or prejudicial, and therefore I here either use none at all, or those of the weakest sort (*k*).

26. But if the patient should be greatly weakened and dispirited by copious evacuations, or be in the decline of life, I usually allow of cordials, even in the beginning of the fever; and on the 12th day, when the business of separation is at hand, I judge a freer use of the warmer medicines allowable; and they might be given earlier, if there be no danger of the febrile matter's falling upon the principal parts. For at this time, the more the blood is heated, the more the business of *concoction* is promoted (*l*).

27. I cannot imagine what physicians mean by their frequent precepts for giving remedies to promote the concoction of the febrile matter, which they often talk of in the beginning of the distemper, though at the same time they order only such medicines as may moderate the fever. For the fever itself is no other than the instrument of nature, by means whereof she separates the vitiated parts of the blood from the sound; tho' she does this in a manner perfectly imperceptible at the beginning, and even at the state of the distemper, but more manifestly in the decline thereof, as appears from the sediment in the urine. The concoction of the febrile matter here means no more than a separation of the morbid particles from the sound, whence the way to hasten this concoction is not by moderating the fever, but the effervescence must be kept up so long as the

The concoction of the febrile matter, what.

(*i*) As this conjecture is merely theoretical, it should seem more natural to suppose, that cordials help to push the thick part of the blood into the lymphatics of these parts; which, as in other cases, constitutes an inflammation of the parts affected.

(*k*) This direction is very just.

(*l*) The practice is very good, but the theory here taken is from a different metaphor.

safety of the patient will give leave: but when the disease is in the decline, and the separation becomes manifest, warmer medicines should be immediately given, in order to finish the operation with greater certainty and expedition. And this is properly promoting the concoction of the febrile matter; whereas I have frequently found that evacuations and coolers hinder the cure, and put back the recovery that was now approaching. But if the fermentation advances sufficiently, despumation will be finished about the 14th day; whereas if coolers are given too late, so as to check the effervescence, it is no wonder if the fever run on to the 21st day, or even much longer, in persons extremely weakened with ill treatment (*m*).

Chap. 4.

Despumation finished about the 14th day.

28. It is remarkable here that, tho' the patient may sometimes seem to be a little relieved by the use of glysters, or other purgatives unseasonably directed about the decline of the distemper, and even perhaps to be totally freed from the fever; yet, a day or two after, it happens that the former fever does not so much appear to return, as a new one to arise; for chillness and shivering presently come on, and are soon followed by heat, and a fever, which, unless it happens to degenerate into an intermittent, runs its course as already described. In this case the patient is to be treated in the same manner as if he had not had the fever before; for (how painful soever it may be to the patient, much weaken'd by the former disease, to wait so long for his recovery) the depuration consequent upon this new

(*m*) In the beginning of a fever the circulation is irregular, and above *par*, as to force and strength; somewhere in the middle irregular, and at *par*; in the decline irregular, and below *par*. Bleeding and other evacuations, therefore, which lessen the force of the blood, are in general proper at the beginning of fevers, and improper in the decline; cordials and blisters, which increase the force of the blood, are improper in the beginning, and proper in the decline. This may be accounted a tolerable general direction, but as much too narrow to comprehend the subtilty of nature, and variety of cases. These therefore should all be particularized, and particular directions suited thereto, wherein our author eminently excels in other parts of his works; for general directions are almost always differently understood by different persons, and one finds the most opposite practices shelter themselves under the same words.

efferv-

Sect. I. effervescence will not be performed in less than 14 days (*n*).

The kinds
to be us'd.

29. I shall next set down the cordials which I generally use in this distemper, the milder (*o*) of which I employ at the beginning, when the ebullition is violent, and gradually proceed to the hotter, according as the fever, or the degree of ebullition requires; always observing, where bleeding was freely used, or the patient was in years, to administer those of a stronger kind, than when no blood had been taken away, or the patient was in the vigour of life (*p*).

The milder and stronger cordials enumerated.

30. The milder cordials I mean are such, for example, as are made of the distill'd waters of borage, citrons, strawberries, the compound scordium water, with a mixture of the syrup of balm, cloves, or juice of citrons (*q*), &c. But the stronger are *Gascoign's* powder, bezoar, confection of hyacinth, *Venice* treacle, with others of the same kind. The following prescriptions were frequently used.

Forms of
cordials.

Take of the distill'd waters of borage, citron, black cherries, and compound scordium water, each two ounces, barley cinnamon water, one ounce, prepared

(*n*) Perhaps theory has more share in this position than observation, at least it does not occur frequently in the present practice, and it may be, that the free use of blitters, established since this was wrote, is one reason thereof. However, it is of the utmost consequence, either to be confirmed, or disproved.

(*o*) Why any in such cases? But we are extremely obliged to the author for the progress he made in rejecting cordials. The modern practice gives coolers here.

(*p*) Whatever increases the forces or powers of the heart and vascular system, may be reckon'd a cordial; and, agreeably to this position, there are two kinds of cordials, *viz.* (1) proper diet, which proves a cordial by keeping up the strength of the spirits, so as to enable the patient to overcome the disease; (2) all such medicines as act by a stimulating property, and of course augment the motion both of the solids and fluids. In fevers, therefore, it should be carefully enquired whether a stimulus is wanting or not; and if not, which is commonly the case, the diet must be slender and thin: hence water is a general cordial where the juices are too thick, and proper abstinence and bleeding admirably answer the same intention in very plethoric habits. An extraordinary motion of the juices is seldom required, and therefore cordials are rarely proper: which our author only seems to have well considered. BOERHAAVE, *Prax. med.* Vol. III. p. 104, 277.

(*q*) These are scarcely cordials at all.

pearl, two drams, fine sugar, two ounces, or a sufficient quantity; mix them together. — Take four spoonfuls of this mixture often in a day, especially when faint.

Take of the distill'd waters of the whole citron, and strawberries, each three ounces, the cooling cordial water of SAXONY, one ounce, treacle water, syrup of balm of FERNELIUS, and of the juice of citron, each half an ounce: mix them for a julap; some of which is to be taken frequently.

Take of GASCOIGN'S powder, oriental and occidental bezoar, and LAPIS CONTRAYERVA, each a scruple, a single leaf of gold; bring the whole into a fine powder, of which take twelve grains, as often as there shall be occasion, in syrup of the juice of citron, and cloves each two drams; drinking after it a few spoonfuls of the julap above directed.

Take of treacle water, four ounces, the seeds of citron, two drams; beat them together and make an emulsion: to the strain'd liquor add enough sugar to sweeten it to the taste. — Take two spoonfuls of it thrice a day (r).

It would be needless to add any more forms of medicines, because a great number are, or may be, of use in the course of the distemper, and require to be varied according to its different stages, and the different symptoms arising therein.

31. (3) But when the fermentation neither rises too high, nor sinks too low, I leave it in that state, without prescribing any medicines, unless forc'd to it by the

Remedies
when
needless.

(r) Here I cannot but condemn the too common practice in inflammatory cases, of giving spirituous waters, and spirituous tinctures in julaps, draughts, &c. which as they are generally made not only with spirits, but likewise with warm stimulating ingredients, must be extremely improper. I have known a cooling pectoral apozem with nitre ordered, and the preposterous addition of two ounces of *Aqua Mirabilis*. Was this likely to prove a cooler? and did the physician well consider what he was doing? — Though such cordials may have their use in the decline of inflammatory disorders, yet in their beginning and increase they must needs do mischief by adding to the heat, which is already too great. — The use of bezoar and leaf gold in cordials has been long laid aside; as they were found greatly to enhance their price, without adding at all to their virtues; and in the present practice they are rarely, if ever, directed in any form.

impor-

Se^ct. 1. importunity of the patient, or his friends; and then I direct such only as may please without prejudicing (s).

Persons in low circumstances how to be treated.

32. I should not omit, that frequently when I was called to persons of low circumstances, I ordered them to do nothing else, after bleeding and vomiting when required, but to keep in bed during the whole course of the distemper, and to sup only water-gruel, barley-gruel, and the like; to drink moderately of warm small beer (t) to quench their thirst, and to take a glyster of milk

(s) All the foregoing are pretty much of this kind; being what the modern physicians understand by non significant.

It would not, I should think, be unbecoming a physician to have integrity and resolution enough to withstand the most importunate intreaties of this sort, and never to order a single grain of medicine, when he sees no necessity for it.—The wisest and honestest part he can act in all cases, where it plainly appears that nature alone will get the better of the distemper, is to leave her at full liberty to act, without breaking in upon her measures and operations; and only to superintend that no mischief be done by the inconsiderate officiousness and unskillfulness of the patient's friends and attendants.—To this his office should be peculiarly restrained in all such instances; and if it be executed with judgment and address, it will reflect as much honour upon him, as if he had wrote several elegant prescriptions during the course of the distemper, and justly entitle him to an equivalent recompence.—Sometimes, however, the impatience, fretfulness, and prejudices of the patient may make it almost indispensably necessary to act otherwise; for he may think himself neglected, or his physician at a loss how to proceed, if nothing be prescribed for him; in which case if he cannot convince the patient that this is serving him in the best and most upright manner, I can see no harm in his being so complaisant as to indulge him in his humour, but much good rather, as it may remove his needless fears and apprehensions, compose, and even raise his spirits, give him a better opinion of, and more confidence in his physician, and of course make him cheerfully and willingly submit to his management in every respect: a state of mind that will not a little contribute to lessen the pain and tediousness of illness, and promote the sick person's recovery. See p. 220. par. 8. of this book.

(t) Clear old small beer, neither bitter nor sour, will agree very well with those who have no nausea, sickness at stomach, nor tendency to a looseness. Where the symptoms are moderate, and where the blood is not too much rarefied, to deny small beer to be taken now and then moderately, is a needless severity, and very often hurtful, especially where it has always been used as the common diluter of the food. But in others, whose vital powers are wound up to the highest pitch, and whose blood is in vast agitation, small beer will not agree; because, however small, it contains a portion of spirit, which,

by

milk and sugar every day, or every other day, till the tenth or eleventh day of the distemper; but towards the end of the fever, when the separation was begun, and proceeded slowly, to promote it, I allowed them now and then a little stronger malt liquor, instead of cordials. And thus, without any thing further, except a gentle purge at the end of the distemper, they generally did well (*u*).

33. If the method above delivered was carefully observed, I commonly, about the fifteenth day, found it proper, from the laudable separation in the urine, and a manifest abatement of all the symptoms, to order a purging potion to drain off the sediment deposited upon particular parts by the preceding fermentation; and unless this was seasonably done, that sediment might return into the mass of blood, and occasion a return of the fever; or, by its continuance in the parts where it lodged, produce obstinate disorders in the body. For the separation being now over, the gross and vitiated humours, transmitted from the arteries to the veins, easily prevent the return of the blood, whence various kinds of obstructions, and, at length, new ferments arise (*w*).

34. But it may be here observed, that purging is not so necessary after vernal, as after autumnal fevers, because the sediment deposited by the former is neither so copious, nor of such an earthy malignant nature as in the latter (*x*); which holds also in the small-pox (*y*), and

by its briskness, will irritate the *fibrillæ* into more frequent and strong contractions; and as it contains a deal of very elastic air, it is ever ready to ferment, by which means it will cause still greater tumults in the blood, and render the patient delirious, if not so before. Langrish's *modern Theory and Practice of Physic*, p. 150. §. (IV).

(*u*) The author seems to have fallen into his easy, natural, and excellent general method of practice from observations of this kind.

(*w*) There is great liberty of feigning taken here.

The reader will meet with some judicious observations on purging, well worth his reading, in Langrish's *Modern Theory of Physic*, p. 192. &c. *Glass de Febris*, p. 88. and in Dr Barker's *Essay on the Agreement between the Ancient and Modern Physicians*, p. 122, &c. and again, p. 201. &c.

(*x*) The practice may be good, but the theory cannot be commended.

(*y*) This practical direction is absolutely contradictory to experience;

Se^{ct.} 1. and many other distempers that rage in the spring; so that here, as far as I have observed, it is not so dangerous to omit purging, as in the cases before-mentioned. And it seems to me, that more distempers arise from an omission of purging after autumnal disorders, than from any other single source.

35. If the patient happens to be very weak, or the depuration not perfectly performed, so as to render it unsafe to give a purge on the fifteenth day, I defer it to the seventeenth, and then prescribe the following, or the like, purging potion, in proportion to the strength of the person.

A purging
potion.

Take tamarinds, half an ounce; the leaves of sena, two drams; rhubarb, one dram and a half; boil them together in a sufficient quantity of water, so as to leave three ounces when strain'd off; in which dissolve manna and syrup of roses, of each an ounce; mix the whole for a purging potion to be taken in the morning fasting.

The diet
to be us'd
upon re-
covery.

36. I always order the patient to keep his bed till he is purged, then permit him to rise, and by degrees return to his ordinary way of living. The diet I order to this time is nearly the same with that abovementioned; as water-gruel, barley-gruel, panada made of bread, the yolk of an egg, water and sugar, thin chicken broth, small beer, to which, when the fever is high, a little fresh juice of oranges may be added, it being first just boiled over the fire to take off the rawness, with the like; tho' water-gruel may serve for them all. But to forbid the drinking moderately of small beer is a needless severity, and often pernicious.

A cough
at the de-
cline how
to be re-
lieved.

37. It sometimes happens, especially in the aged, that tho' the fever is cured, and the body perhaps rather too much purged, that the patient still remains very weak; and with coughing or spitting, expectorates a large quantity of viscid phlegm: a symptom terrifying not only to the patient, but also to the physician, if not apprized of it, who might otherwise mistake it for a beginning consumption: tho' I have found it not experience; one would wonder how so careful an observer could be led to affirm this; but his theory seems to have prevailed here.

very

very dangerous. In this case I order a glass of old *Malmesey, Falernian, or Frontignac,* with a toast; which, by strengthening the texture of the blood, (much weakened by the preceding fever, and therefore rendered unfit to assimilate the juices of the aliment lately taken in) removes this symptom in a very few days, as I have found by repeated experience (z).

Chap. 4.
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38. By the method (a) here laid down, the patient will be preserved from several symptoms and disorders usually ascribed to malignity; nothing being more common with unexperienced physicians, than to lay the blame on malignity, when by too cooling remedies, or the unseasonable use of glysters, they have weakened the texture of the blood, and reduced nature so low, whilst she was performing the office of separation, as to bring on faintings, and other bad symptoms, which are the genuine effects of such perverted rules of art: but if the long continuance of the disease should wipe off this aspersions of malignity, whatever afterwards obstructs them in the cure they impute to the scurvy; tho' in reality the symptoms that happened in the height of the disease were neither owing to malignity, nor those that appear in the decline to the scurvy, but both of them to wrong management, as I have frequently observed. Not that I, nor any other physician, who is acquainted with the history of diseases, will say that there are no fevers of a malignant nature; for there are manifest signs of such; nor will I deny that a fever may be sometimes complicated with a scurvy and other disorders; but what I assert is, that both malignity and the scurvy are here frequently blamed without reason.

Malignity  
and the  
scurvy un-  
justly ac-  
cus'd.

(z) In this case bitters, light chalybeates, riding on horse-back, and food of easy digestion, often prove a speedy and an effectual cure.

(a) The method laid down in this chapter, seems to suppose that a fever cannot be cured without running thro' its period of fourteen days. And in reality, this is the general time in which those who are left to themselves, and recover, have the strongest signs of a favourable crisis. But it is as certain that the evacuations of bleeding, vomiting and purging, will often quite extinguish a fever in a few days, and where they cannot, blistering shortens the period. And the author seems to have discovered this in other fevers, which perhaps he therefore judg'd to be of a very different nature, because he had success in different ways. But there are many different solutions of the same problem, exceeding one another however in brevity.

Sect. I.

Cooleis  
and gly-  
sters given  
too late,  
prolong  
the disease.

39. When the fermentation of the blood proceeds in a proper manner, the despumation of the morbid matter will be finished in the time abovementioned; but if cooling medicines, or glysters, are given too late, the fever will run to a much greater length, especially in aged persons that have been improperly treated. When I have sometimes been called to such, after they have struggled with the fever above forty days, I have used my utmost endeavours to procure the despumation of the blood, which was now so far weakened, partly by age, and partly by glysters and cooling medicines, that I could not obtain the end proposed, either by cordials, or any other strengthening remedies; but either the fever maintained its ground, or, if it seemed to go off, the strength of the patient was almost quite exhausted (*b*).

Good ef-  
fects of ap-  
plying the  
heat of  
young  
men.

40. But when other means failed me, I have made use of a singular expedient with great success, namely, the application of the heat of strong and healthy young men: nor will it be found surprizing, that by this uncommon means the patient should be considerably strengthened, and debilitated nature assisted, so as to disburthen herself, and throw off the remains of the morbid matter; for it is easy to apprehend that a considerable quantity of sound and wholesome *effluvia* will thus pass from a robust, healthy body, into the exhausted body of the patient; and I have never found the repeated application of warm napkins to prove near so serviceable as the present method, where the heat applied is not only more natural to the human body, but also more mild, moist, equable and constant. And this way of transmitting, perhaps, balsamic spirits and exhalations into the body of the patient, however quaint it may seem, has also since been successfully used by others. Nor do I think it below me to have mentioned this expedient, whatever censure it may expose me to, from such as contemn whatever is vulgar; as judging the health and benefit of mankind ought to be preferred to their false opinion of things.

Some sym-  
ptoms  
here re-  
quire a  
particular  
treatment.

41. By carefully pursuing the method hitherto delivered, the greater part of the bad symptoms, that either accompany, or follow upon this fever, will be pre-

(*b*) Blisters here are of principal use.

vented,

vented, which otherwise, in the course of the cure, frequently perplex the physician, and prove fatal to the patient, tho' the disease itself should have no such destructive tendency. But as such accidents are common, if the physician comes too late, be negligent, or unskilful, I will here briefly treat of the cure of those symptoms, which, when they happen, require a peculiar treatment, tho' they might generally have been prevented, by keeping close to the abovementioned method.

Chap. 4.

42. And, first, if a *delirium* be occasioned, either by the too early and unseasonable use of heating medicines, or the patient's being naturally of a hot constitution; or, which is nearly the same, if he has constant watchings, raves, speaks hastily, looks wild, takes his medicines, or other liquids eagerly, or has a suppression of urine: in this case I bleed more freely, order glysters and cooling medicines, particularly in the spring, at which time such as are young and florid, tho' free from this symptom, may be treated in the same manner, without much danger (c).

Method of treating a *delirium*.

43. By these means I endeavour to support the patient, till the disease is run to a certain length, when I find it easy to take off both that, and the delirium, by a large dose of some opiate; for anodynes properly given in the decline are very beneficial, whereas they prove of no service whilst the fever is high, tho' given in the largest dose, as being unable to stop the violent course of the fermentation; but chiefly because the peccant matter, then equably mix'd with the blood, and not ripe for separation, is confined, whence the expected

Taken off by an opiate.

(c) Great care should be used to discover what occasions this symptom, as it may proceed from several, and those very different, causes; for instance, the activity and copiousness of the spirits, or their weakness and paucity, an inflammation of the brain, or its membranes, &c. If it happens in an acute fever, with a full and quick pulse, bleeding in the jugular is proper to lessen the pressure on the brain, and divert the blood to the extremities; stimulating plaisters, or other proper applications, should be laid to the feet; nitrous medicines may also be given with advantage; and, in general, whatever cools, abates the tension of the nerves, opens obstructions, blunts the *stimulus*, and attenuates the juices. But if the disorder be accompanied with a weak, slow, and irregular pulse, blisters are proper, warm attenuants, and all nervous medicines. Opiates are very unsafe in this case.

Sect. I. depuration is hindered. Whether this be the reason of the thing, or it proceeds from some more latent cause, I leave to the determination of others.

Cautions at the time of giving it. 44. This, however, I can affirm from numerous observations, that laudanum, or any other narcotic used to take off this symptom, whether in the beginning, increase, or height of this fever, was either ineffectual or prejudicial; whereas a moderate dose in the decline proved successful. I once ordered a narcotic upon the twelfth day of the disease, with success, but never knew it given sooner to advantage; and if it be deferred to the fourteenth day, when the separation is more perfect, it will prove still more beneficial. For I have frequently observed, that the delirium may be disregarded, till it is proper to give an opiate, provided the disorder be not increased by the use of cordials, and heating medicines, which may here prove mortal. The opiates I usually prescribe, are either *London Laudanum* to a grain and a half, or the following:

Forms of opiates.

Take of cowslip flowers, one handful; boil them in enough black-cherry water to leave three ounces, when strain'd off, to which add syrup of white poppies, half an ounce; juice of lemons, half a spoonful; mix the whole together.

Or,

Take of black-cherry water, one ounce and a half; plague-water, two drams; liquid laudanum, sixteen drops; mix them together.

To be preceded by a purge.

45. It may be proper to add, that if this symptom be not very urgent, and the fever be prolonged, so as that the patient may be safely purged before an opiate is given, it will then be attended with greater success. And therefore I usually direct two scruples of the greater *Pil. cochiae*, dissolved in betony water, to be taken ten or twelve hours before the opiate; and thus the disturbance this warm purgative might otherwise occasion will be prevented by the opiate, and an agreeable sleep procured. But if the watching continues after the fever, and the other symptoms are gone off, I have known a piece of linnen dipt in rose-water, and applied cold to the forehead and temples, prove of greater service than any kind of opiate.

46. 'Tis usual for the patient to be afflicted with a bad cough during the whole course of the disease, arising from the violent commotion of the blood, whereby the juices being broke, are separated from the mass, in its circulation thro' the pulmonary vessels, and thrown upon the internal membrane of the *Trachea*, which is of a fine texture, and extremely sensible. The cough is first dry, the matter being then too thin to be expectorated; but the febrile heat gradually thickens it, and soon renders it more tenacious, whence it is with difficulty expectorated; and becomes apt to cause a suffocation, for want of sufficient strength in the patient to discharge it. In this case I seldom use any other medicine than fresh-drawn oil of sweet almonds, unless, as it sometimes happens, the patient has an aversion to oil, and if so, I endeavour to relieve him by the common pectorals. Otherwise I prefer the oil of almonds to all other pectoral medicines, chiefly because to answer the intention they must be given freely, and in large quantities; whereby the stomach, already too weak, and subject to retchings, is overcharged; and, besides, we are sometimes by this means prevented from giving what is proper upon other accounts.

Chap. 4.


 Treatment of a cough.

Oil of sweet almonds commended in this case.

47. Again, neither reason nor experience have yet convinc'd me that the use of this oil is not to be allowed in fevers, because it is of an inflammable nature, and consequently may tend to increase the distemper; for granting it to be naturally hot, 'tis however certainly not so hot, but that the advantages arising from its use are greater than the inconveniences (*d*). For it is an excellent pectoral, opens and lubricates the passages, thereby promoting expectoration, which, when copious, frees the blood from the noxious humour, now seasonably separated, and at the same time tends to cool; so that this symptom thus proves of considerable service, for which reason I am not anxious about it. Let it, however, be observed, that 'tis unsafe to give several spoonfuls of oil of almonds at once, as retchings and a looseness may thereby be occasioned; but the frequent

Its disadvantages obviated.

How to be given

(*d*) It does not appear from any of its sensible qualities, or effects, that oil of almonds is hot; but rather the contrary, as it is given with great success in several inflammatory cases. *Vid. Geoffroy de Materia Medica, Vol. III. p. 80.*

Se<sup>t</sup>. I. use of it in small quantities, throughout the day and night, not only eases the cough, by promoting expectoration, but, which is very material, the patient, now almost worn out, will be in some measure recruited by this kindly nourishment.

A *bleeding at the nose* how to be stoppt.

48. Sometimes a *bleeding at the nose* happens, either from giving too warm medicines in the beginning of the fever, or from not sufficiently depressing the ebullition of the blood, the patient either being in the prime of life, or the season of the year conspiring with the fever. Here the means commonly made use of to check the motion of the blood will be of little service; such as bleeding, ligatures, astringent, agglutinant, balsamick medicines, &c. tho' recourse may be had to these and the like helps, according as they shall be judged proper; but the principal thing is, to stop the violent ebullition of the blood by a proper medicine; though, in reality, if this symptom be considered apart, the remedies abovementioned, and particularly bleeding should seem to be serviceable therein; nor have I scrupled to use them; yet as they do not (bleeding excepted) strike sufficiently at the cause of this symptom, viz. the ebullition of the blood, 'tis imprudent to depend upon them; therefore, in this case, when all other means had proved ineffectual, I usually gave the following draught:]

A quieting draught.

*Take of the distill'd waters of purslain, and wild poppies, each an ounce and a half; syrup of white poppies, six drams; syrup of cowslips, half an ounce: mix them together for a draught (e).*

(e) So gentle an opiate does not seem likely to put a stop to a *bleeding at the nose*, where the abovemention'd means fail. If the hæmorrhage be violent, therefore, it will be proper to bleed in the jugular, set cupping glasses on the shoulders, apply cooling lotions to the head and parts adjacent, bathe the extremities in warm water when they are cold, blow a styptic powder up one or both the nostrils, as it shall be necessary, or put up a tent dipt in some styptic liquor. See Sect. vi. Chap. vii. Par. 8. Cooling emulsions, opiates, subastringent and nitrous medicines are to be given internally, and a spare, thin diet used. An upright posture, with the head bending a little forwards, is the best heré. If the blood be acrimonious, thin and serous, agglutinants should be freely exhibited. In case of great weakness from the loss of blood, refrain from opiates entirely, and direct mild cordials, a restorative diet, and rest.

49. But

49. But I judge it improper to put an immediate Chap. 4.  
 stop to every hæmorrhage after this manner ; for it is frequently rather to be permitted, and may prove of great service, sometimes, by abating the too violent ebullition of the blood, and, at others, by proving critical put an end to the disease. And, in reality, no considerable effect is to be expected from the abovementioned remedy, unless the symptom has continued some little time, and bleeding in the arm preceded its use. Again, it must be carefully remarked, that this and all other immoderate hæmorrhages are peculiarly apt to return, soon after a stop has been put to them, unless a gentle purge be given, which therefore must not be omitted, even tho' it should seem too early to purge with respect to the stage of the fever, if this symptom had not happened.

All hæ-  
 morrhages  
 not to be  
 immedi-  
 ately stoppt.

50. The *hiccup* generally happens to the aged after an immoderate looseness, but chiefly after excessive vomiting, and frequently prognosticates imminent death. I ingenuously own that I have not been able to satisfy myself in my inquiry into the cause of this symptom ; but I have frequently observed it to proceed from some disturbance raised in the stomach and adjacent parts by violent medicines, not without great danger to the patient, because nature is unable to check and quiet this commotion ; and on this account I judged it proper to assist her by art, by giving a large dose of *diascordium*, viz. two drams, which seldom failed to remove this symptom, when the seeds of dill, and other celebrated specifics, had proved ineffectual (*f*).

An hiccup  
 how to be  
 treated.

51. If,

(*f*) The *hiccup* is a convulsive motion of the diaphragm : happening in the declension of a fever it is a dangerous symptom. In this case it is generally accompanied with extreme weakness and depression of spirits ; and therefore the opiates directed should be of the warm or cordial kind, and given in small quantities ; otherwise they may sink the spirits still more, and bring on a fatal *stupor*. *Hoffman* here prefers gentle antispasmodics and anodynes to opiates ; such as *amber*, *castor*, *cinnabar*, *saffron*, &c. When this disorder proceeds from viscid or irritating matter lodged in the stomach or first passages, a vomit is proper, if the patient be strong enough to bear it. If occasioned by depletion, or immoderate evacuations, a restorative and nourishing diet, and a moderate use of wine, give relief. If by an internal excoriation, or inflammation, from a corrosive poison, or other like cause, *warm milk*, and *oil of almonds*, or *oil-olive*, should be drank in large quantities, and also plentifully

Sect. 1.

A loose-  
ness how  
to be  
cured.

51. If, as above intimated, (g) a *looseness* should happen in the course of the disease, for want of giving a vomit at the beginning, when it was indicated by the retchings; one should be given at any time of the disease, provided the patient be strong enough to bear it, even tho' there be now no tendency to that evacuation. But as this has been largely treated in the foregoing pages, I shall only mention what is proper to be done, if a looseness should happen notwithstanding an emetic has been given; which is very seldom the case, except in an inflammatory fever, where this symptom, so far from being prevented, is sometimes occasioned by a vomit; which is an observation of consequence. And here I have found the following glyster more efficacious than any other astringents.

An astringent  
glyster.

*Take of the bark of pomegranates, half an ounce; red roses, two pugils; boil them in a sufficient quantity of milk, so as to leave half a pint of strained liquor, in which dissolve half an ounce of diascordium: mix the whole for a glyster.*

'Tis improper to inject a larger quantity of this glyster than is here directed, tho' it be naturally astringent; because the intestines may be oppressed by its bulk, whence the looseness will rather be promoted than check'd (b).

Rather to  
be check'd  
than en-  
courag'd.

52. But it may be said, that if a diarrhoea should appear, especially in the decline of the disease, it is better to encourage than stop it; as it is sometimes a critical discharge, and terminates the distemper. This undoubtedly may sometimes be the case, but it happens so rarely, as not to encourage one to attempt it; be-

plentifully injected by way of glyster. See *Van Swieten, Comment. in Aphor. Boerb. Vol. 2. p. 265.*

(g) See above, *Par. 19.*

(b) It is a very difficult matter to lay down a general method of cure for a *symptomatic looseness*; as it may proceed from a great variety of causes, and occasionally require to be check'd, or promoted. However, when it happens near the crisis, and is not too violent, it must by no means be check'd, as it may happily terminate the disease. But if danger be apprehended from the sinking of the pulse, fainting, &c. blisters, perspiratives, and gentle cordials, both of the medicinal and dietetic kind, will prove of very considerable service, in checking it, as well by way of revulsion as by strengthening the patient.

fides,

sides, the reason before alleged, in treating of the cure of fevers in general, which tends to shew the necessity there is of stopping the flux, holds here also. And to this may be added, that in order to the genuine depuration of the blood, it is not only necessary there should be a secretion of some feculent parts, but there is further required a separation of others by way of *efflorescence*, as we daily see in other rich and heterogeneous liquors. Consequently if the looseness be too much promoted, the depuration will not be wholly compleated, and perhaps the matter, that ought to have been last expelled, will pass off first. I own indeed that after the separation by way of *efflorescence* is finished, which is usually performed gradually and insensibly, and by means of a freer perspiration, rather than of a manifest sweat, if then a looseness should happen, it would be attended with little danger; for it must be observed, that now it is only owing to a neglect of purging in time, whence the excrement, for want of being evacuated, contracting a kind of malignant ferment, irritates the intestines to discharge their contents; besides, the very liquid consistence of the excrement is a proof that the looseness ought not to be accounted a critical solution of the disease (*i*).

53. Possibly the *iliac passion* deserves to be enumerated among the symptoms consequent upon fevers, since it is sometimes occasioned by immoderate vomiting in the beginning of the disease. This terrible disorder, which has hitherto generally been esteem'd fatal, is owing to the inversion of the peristaltic motion of the guts, whence their contents are forced upwards, and thrown out by vomiting, so that the strongest glysters become emetic, as do likewise cathartics, immediately after being taken. And I judge the exquisite and intolerable pain attending this disorder, proceeds only from the inverted peristaltic motion of the bowels, whose natural formation is such, as by their many folds to promote the descent of the *fæces* in the properest manner; and therefore whenever they are forced to yield to a motion opposite to that of their fibres, a pungent pain is occasioned, which remains fixt upon a particular part, when either the valve placed at the beginning of the *colon*, to prevent the return of the excrement in-

The *iliac*  
*passion*  
whence.

(*i*) The reasoning of this paragraph is very theoretical.

to

Sect. I. to the *ileum*, or any other membrane belonging to the cavity, singly sustains the force of this preternatural motion. This inverted motion, productive of the pain, may proceed either from (1) obstruction, or (2) irritation.

Whence the inverted motion of the intestines.

54. (1) It is manifest that whatever blocks up the passage of the intestines, must needs occasion this contrary motion in them; and this may happen, according to authors, (1) from hardened excrements, (2) much *flatus* collected in the bowels, and as it were pushing them up, (3) strangulation from a rupture, (4) inflammation, (5) and lastly, large swellings filling up their cavity. However, it is plain that the inverted motion, proceeding from these causes, is rather to be accounted the motion of the aliment taken in, than of the intestines themselves; nor is it an inversion of the motion of the whole duct, but of those parts only which are situated above the seat of the obstruction; for which reason I call it the *spurious iliac passion*.

55. (2) I conceive the inversion of the peristaltic motion generally proceeds from acrid and peccant humours being deposited in the stomach and adjacent intestines, from the violent fermentation of the blood in the beginning of the fever, whereby the motion of the stomach is first inverted, and its contents thrown up with violence, and then the small guts that are contiguous to it, being weakened, yield to the violent motion of the stomach, and at last the large guts are also made to sympathize with them. This is the *true iliac passion*, and the disorder under consideration. The method of curing it has hitherto remained a secret, notwithstanding the pretensions of such as have had recourse to quicksilver, and leaden bullets, which do little service, and are frequently very dangerous.

The intentions of cure to be answered.

56. As soon as it appears from glysters being vomited up, and other signs, that the disease is a true iliac passion, I endeavour to answer these three intentions:

(1) To put a stop to the inverted motion of the stomach, which produces the same in the intestines.

(2) To strengthen the intestines weakened by the sharp humours. And

(3) To free the stomach and bowels from these sharp humours.

57. (1) I direct a scruple of *salt of wormwood*, with Chap. 4. a spoonful of *lemon juice*, to be taken morning and night, and in the intervals give some spoonfuls of *mint-water* by itself, twice every hour, by the repeated use of which the vomiting and pain may be soon removed. In what manner.

(2) At the same time I order a live puppy to be applied to the belly, till the following purgative is given.

(3) Two or three days after the pain and vomiting are gone off, I give a dram of the greater *Pil. cochixæ*, dissolved in *mint-water*, and direct draughts of *mint-water* to be frequently taken during the operation of the purge, in order to prevent the return of the vomiting (k).

58. I have observ'd that 'tis in vain to give this, or any other the strongest kind of purge, before the stomach be strengthened, and reduced, together with the intestines, to its natural motion; for otherwise all cathartics will prove emetic, and consequently be more prejudicial than serviceable. And this reason induced me to forbear purgatives, till I had first used stomachics awhile (l).

59. The diet I direct is very sparing; for I allow the patient only to sup some spoonfuls of chicken broth, twice or thrice a day, and confine him to his bed during his illness, and till the signs of recovery appear; directing him to continue the use of the *mint-water* for

(k) The anti-emetic mixture should be given oftener to do any good; it is trifling to give it only twice a day in so acute and dangerous a disorder. And if this and mint water should not relieve, opiates must be administered in a sufficiently large dose, and repeated, as the case requires, till the vomiting ceases. Solid opium here has two advantages, *viz.* the dose may be more exactly ascertained, and it is least apt to be thrown up again.

(l) When every thing is quiet, it is absolutely wrong to wait two or three days before giving a purge; the most convenient form for which, is that of pills. A proper quantity of *calomel* made up into a pill, will more certainly pass than any thing else; and for fear that in a dose of about twelve grains it should irritate the stomach too much, it may be given in a less quantity, and repeated as there is occasion; and an opiate may occasionally be mixed with this, or other pills. And as the most plentiful bleedings ought to be used, and fomentations frequently applied in this case, there seems to be little danger of inflaming by *calomel*. The dram of *Pil. cochixæ* ordered by the author is too much at once, and ought not to be mixed with a liquid, because in this form it is least likely to be retained by the stomach.

Sect. 1. a considerable time after the cure, and to keep the belly warm, by wearing a double flannel, whereby a relapse may be prevented, which happens more frequently in this than in any other disease (*m*).

60. In these few particulars consists my whole method of curing this disease, which, it is hoped, no one will deliberately condemn, on account of its simplicity, and the want of elegance of language, and the pomp of medicine to recommend it.

61. Thus I have enumerated the symptoms that usually happen in this fever; but there are others I

(*m*) The *true iliac passion* will, doubtless, rarely be found to yield to so few and gentle remedies; and therefore we shall add some further directions relating to the cure thereof. When a fever has preceded, or accompanies it, all heating medicines should be forebore, for fear of occasioning an inflammation of the intestines, and paving the way to an incurable gangrene. Bleeding very plentifully is necessary, and must be repeated, as the case requires; for the blood in some of these cases is as much inflamed, and ought to be taken away as copiously at least as in a pleurisy; tho' to be sure the rule to go by is the fineness of the blood, which will appear to the eye, and the strength of the patient, which may be known from the pulse and other circumstances. An emollient and laxative glyster should be given every hour, or every two hours; *Boerhaave* tells us, (whose method this is in part) that several have perished because glysters were not given often enough. A tea made of *linseed* or *marsh mallow roots*, barley water, small chicken broth, and the like, may be used warm for common drink. It is advisable to continue the process, and keep to a cooling, emollient, spare diet, for, at least, two or three days after the disease is gone off, in order to prevent a relapse. Opiates may be exhibited along with purgatives. If the disorder be caused by strangulation from a rupture, we must, before exhibiting any medicines, endeavour to disengage and replace the intestines, by applying emollient fomentations and cataplasms to the part affected; and, all means failing, recourse must be had to the surgical operation requisite in these cases. But no probable method should be left unattempted, if the case be not too urgent to admit of any delay, before proceeding to an operation, that is always dangerous, and demands uncommon skill and dexterity in the operator. Warm bathing in a decoction of *marsh mallow roots*, *linseed*, *fenureek seed*, *elder* and *camomile flowers*, *poppy heads*, and other like ingredients, in *milk and water*, is an admirable remedy, and particularly in the last mentioned case. In desperate cases *quicksilver*, prudently administered, has sometimes given relief. The method is to begin with a small quantity, and increase it by degrees. *Heister* in his surgery greatly commends, in all these cases, the smook of tobacco to be blown up the *anus*. Tom. 2. p. 1100. See also his *Compendium medicinæ*, p. 249.

shall not now mention, as they are of less moment, and require no particular treatment, but go off spontaneously, if the fever be skilfully treated. And let this suffice for the continued fever of this constitution, with its symptoms (*n*). Chap. 5.

## C H A P. V.

### Of the intermitting Fevers of the Years 1661, 1662, 1663, 1664.

1. **T**HE constitution, as we observed above, that prevailed through all the preceding years, having so eminently favoured the rise of all kinds of intermittents, I will here set down the observations I then made concerning them, and also add those which relate to the few intermittents that have happened sporadically since that time, that I may not break in upon the history of the following years.

2. And first it must be observed that, in order to conjecture something, at least, of their nature, regard must be had to the three different stages of the fits of intermittents; *viz.* (1) the *shaking*, (2) the *ebullition*, and (3) the *despumation*.

(1) I judge the *shaking* proceeds from this cause, that the febrile matter, which, being not yet turgid, was in some measure assimilated by the blood, becomes, at length, not only useless, but prejudicial to nature, raises a kind of violent motion in the mass, and endeavouring, as it were, to escape, causes a chillness and shaking; which shew how pernicious in its nature the febrile matter is to the body, in the same manner, as purging draughts in weak stomachs, or poison casually

The three stages of intermittents to be considered

Description of the first.

(*n*) We have, as we went along, taken notice of the deficiencies this history of the cure of a fever labours under, as being too loose, hypothetical, general, and incompleat; and it should seem that our author was well aware of it, he having been abundantly more exact in most of his following treatises, where we shall generally find a just and full description of the disease under consideration, a minute and particular detail both of its usual and unusual symptoms, together with safe methods of practice, judiciously suited to the several changes thereof.

swallowed,

Sect. I. swallowed, immediately occasion a shivering, and other  
 ~~~~~ symptoms of the same kind.

The second.

3. (2) Nature, therefore, being by this means irritated, raises a *fermentation* in order to expel the enemy with less difficulty; this being the common instrument she uses to free the blood of its morbid particles, as well in fevers, as in some other acute diseases. For by means of the fermentation, the separated parts of the peccant matter, that were equably mixed with the blood, begin to be united together in some measure, and consequently may be more easily moulded, so as to be fitted for despumation. That this is probably the case appears from the death of such as die in the fit, which generally happens in the first stage of it, *viz.* during the *shaking*, or *cold fit*; for if they survive till the effervescence, or hot fit comes, they escape at least for that time. Both these stages are severe, (3) but in the third, namely the *despumation*, all the symptoms first grow milder, and afterwards go off entirely. *By despumation I mean no more than the expulsion, or separation of the febrile matter, now in a manner overcome, when what is thrown off partly resembles yeast, and partly lees, as may be seen in other liquors.*

The third.

Whence the return of the fit.

4. Having premised these particulars, I proceed next to shew why the fit returns, tho' the patient now seems to be out of danger: and this arises from the febrile matter's not being wholly thrown off, whence the latent remainder re-appears, according to the nature of the fits, and occasions fresh disturbance, running thro' the several stages above described. How it happens that this latent remainder (not sufficiently overcome by the preceding effervescence, and consequently not expell'd with the other peccant matter) does not proceed with the same regularity in every intermittent, but sometimes requires one day, sometimes two, and at others, three days, before it comes to maturity, and causes a new fit, is what I cannot account for; neither do I know that any one has hitherto sufficiently explained this secret operation of nature.

5. I do not desire to be called a philosopher, and as for such as conceive they have a right to this title, and, upon this account, may possibly censure me for not having attempted to dive into these mysteries, I advise them to try their faculties in accounting for the various works

works of nature that every where surround us, before they go about to teach others. I would fain know, for instance, why a horse comes to his full growth in seven years, a man in twenty one; why some plants usually flower in *May*, and others in *June*; not to mention innumerable other effects, whose causes are as hard to be discovered (o). Now if the learned ingenuously confess their ignorance in these points, I see no reason, why I should be censured for being silent, in a matter not less obscure, and perhaps wholly inscrutable; especially as I am persuaded that nature proceeds in this case, as in all others, with a certain regularity and uniformity; the matter of tertians and quartans being not less subject to, and governed by the laws of nature, than all other kinds of bodies are.

6. All intermittents, in general, begin with a chillness and shaking, which are soon followed by heat, and then by sweat. The patient usually vomits both in the cold and hot fit, complains of great sickness, is thirsty, his tongue dry, &c. And these symptoms abate in the same degrees as the sweat increases, which, becoming

Their symptoms and particular kinds described.

(o) A search into efficient, or material causes, is doubtless one of the most idle and impertinent uses we can make of the powers of our understanding; for, as they lie far beyond the reach of the senses, we cannot but fail in the attempt; and it is not improbable, on a supposition we could come at them, that they might rather serve to gratify a vain curiosity, than advance us in useful knowledge. Would it not then be acting more prudently, to resolve them into the will and pleasure of the creator, without presuming to penetrate into what he should seem to have covered with an impenetrable veil; and rather apply ourselves to mark their effects, and operations, so as to draw from thence a set of directions, which, being built on so solid a foundation, might, if judiciously applied, and varied as particular circumstances may require, serve to conduct us with safety and security in most occasions? Had the generality of physicians, for instance, who for many ages past have rack'd their brains to no purpose, in order to discover the remote and latent causes of simple and obvious effects, made this the sole scope and end of their researches, what a fund of beneficial knowledge would have been amassed by this time! It may seem strange that in so great a length of time they should not have perceived that they have no adequate faculties for those sublime enquiries, but that all the truly useful, or scientific knowledge they can ever hope to gain, is only to be had from observation and experience, every thing else being eternally liable to be controverted, as existing only in the imagination.

Sect. I. more copious, ends the fit (*p*). And now the patient continues tolerably well till the fit returns at the usual time; which, in a quotidian, happens once in the space of twenty four hours, or a natural day, in a tertian every other day, and in a quartan every third day; calculating from the beginning of one fit to the beginning of the next. But the two latter are frequently doubled, so that a tertian comes every day, and a quartan two days successively, the third being the intermediate, or well day; and sometimes, when it proves a triple quartan, it comes three days successively, the intermittent deriving its name from the manner of its first appearance.

Whence
the re-
doubling
of the fits.

7. This redoubling of the fits is sometimes caused by the too great quantity and activity of the febrile matter; in which case the adventitious fit precedes the *original* one: but sometimes, when the patient is considerably weakened, and the violence of the fit abated, either by too free an use of cooling medicines, or profuse evacuations, the adventitious fit follows the *original* one, and is both milder and shorter than it. In the former instance, the violent motion of the matter does not wait for the due time of its return, and finishes its despumation in a shorter time; but in the latter, the blood, being too weak to throw off the febrile matter at once, immediately causes a fresh fit, in order to expel the remainder. And perhaps upon these two contrary causes, both the anticipation, and the slower approach of the fits, in common regular intermittents,

(*p*) The disease here being very imperfectly described, we shall give a more exact and circumstantial detail of its symptoms.—These are heaviness, pain of the head and limbs, pain in the loins, paleness in the face, chilness of the extremities, yawning, stretching, and often violent shaking, a small, slow pulse, thirst, retching, and sometimes vomiting of bilious matter. In the hot fit, a heat of the whole body, redness and distension of the skin, a quick and strong pulse, watchfulness, short breathing, and sometimes raving, high coloured urine without a sediment: these symptoms abate by degrees, and an universal sweat appears, which soon terminates the fit; this generally lasting ten or eleven hours, and sometimes twenty, according to the difference of constitutions, and the nature of the morbid cause.—The patient is indisposed the following day, chill, and apt to shiver, has a weak and slow pulse, his urine is thick and pale, and either deposits a sediment, or contains a small cloud suspended therein.

may depend: both which frequently happen in quotidianians. Chap. 5.

8. Intermittents are either *vernal*, or *autumnal*; tho' some arise in the intermediate seasons; but as these are not so frequent, and may be referred to Spring or Autumn, according as they approach nearest to either, I shall comprehend them all under the two kinds above-mentioned. These diseases make their first appearance in *February* and *August* particularly; though sometimes they appear sooner or later, according as the air is more or less disposed to produce them, which, of course, renders them more or less epidemic. The *autumnal* intermittents of 1661 were an instance of this; for I remember a woman was that year seized with a quartan upon St *John's* day, and numbers very early in the season; and afterwards in the declension of the year, these distempers became very epidemic.

All intermittents either vernal or autumnal.

9. This distinction of intermittents is so necessary, that unless it be well attended to in practice, no just prognostic can be formed of their continuance, nor a method of cure directed, suitable to the different nature, both of the seasons, and disorders. It must be own'd, that the intermittents of both seasons, do not greatly differ, either as, (1) to the manner of their attack; which begins with a shaking, is soon succeeded by heat, and at length goes off with sweat; or (2) the difference of their appearance, in which respect some are tertians both in spring and autumn: and yet I judge that they differ essentially from each other.

The two kinds differ essentially.

10. I will begin with *vernal* intermittents, most of which are either *quotidians*, or *tertians*, and appear sooner or later, according to the various disposition of the season. For the spirits being concentrated by the winter's cold, gather strength in their recess, and in this lively state are invited out by the heat of the approaching sun, and, being mixed with the viscid juices, wherewith nature had stock'd the blood during that season, (which, however, are not so viscid as those whose fluid parts have been dried up and parched by the preceding heat in *autumn*,) are, whilst they endeavour to escape, detained, and as it were entangled, and consequently occasion this *vernal ebullition*, in the same manner as is observed to happen upon exposing bottles filled with beer to the fire, after having been long kept buried in

Vernal intermittents whence, and their progress.

Sect. I. sand, or in a cool cellar, whence the liquor begins to work, and endangers the bursting of the bottles. The blood, thus disposed, attempts its depuration, and, by means of its volatile spirits, finishes it in a short time; unless the juices be too viscid, so as to check the fermentation: and tho' this should happen, yet the vernal effervescence seldom proves continued and regular, but generally intermits, and is divided as it were into several fits. For the blood being now turgid with these rich spirits, nature hurries on her work, and by particular fits perfectly compleats the secretion of some parts, before she finishes the universal separation. And this seems to be the reason that there are but few continued fevers in spring, and particularly in its decline, unless an epidemic constitution happens to prevail; the fermentations which arise at this time, being either suddenly check'd, or hastening to an intermission; or lastly, such parts of the juices as were best fitted for separation, are speedily and violently thrown upon some other part of the body; whence quinsies, peripneumonies, pleurisies, or the like dangerous diseases immediately arise, especially at the decline of the spring.

Few continued fevers in spring.

Vernal intermittents seldom last long, and always prove salutary; so that the aged or infirm can scarce be endangered thereby, without very unskilful treatment. But I have sometimes known vernal tertians prolonged to autumn, by improper bleeding and purging, along with an unsuitable regimen; but this season being very contrary to their nature, immediately check'd them, the patient in the mean time being almost worn out by the frequent redoubling, and long continuance of the fits, so that he seemed in great danger, tho', as far as I have hitherto been able to observe, he always recovered.

12. Neither have I met with those dangerous symptoms, in such as are cur'd of this disease, which, as shall hereafter be shewn, succeed inveterate autumnal intermittents; viz. a mortal inflammation of the tonsils, a hard belly, dropsical swellings, &c. But I have often found when the patients have been extremely debilitated, by the long continuance of the disease, the doubling of the fits, and repeated evacuations, that they have been seized with a madness, when they began to recover, which went off proportionably as they gathered strength.

Sometimes succeeded by a madness.

13. But

13. But autumnal intermittents differ very much from vernal ones. For tho' a tertian in those years, when it is not epidemic, and seizes healthy persons, does sometimes go off, in a short time, and is accompanied only with the usual symptoms of vernal tertians; yet when it is epidemic, and seizes the aged, or persons of an ill habit of body, it is not without danger, and lasts two or three months, and perhaps even to the following spring. But quartans are more dangerous and obstinate than tertians, for old persons are sometimes destroyed by a few fits; in which case they generally die in the cold fit, as we have already observed. Those who have just entered upon old age are not indeed in so much danger of sinking under the disease in so short a time, but are scarce ever cured before the return of the same period of time of the following year, wherein they were first seiz'd: and sometimes this disease leaves some disorder behind it, that in the end proves mortal.

Chap. 5.

An autumnal epidemic tertian sometimes dangerous.

14. A quartan now and then changes its face, and likewise produces abundance of morbid symptoms, as the scurvy, a hard belly, a dropsy, &c. But young persons are better able to bear this distemper, from which they are sometimes freed about the winter solstice; tho' it happens more frequently, particularly when bleeding and purging have been used, that their recovery is prolonged to the subsequent vernal equinox, or even the succeeding autumn. I have often wondered to see infants struggle with this disease for six months, and at length recover.

A quartan sometimes succeeded by dangerous symptoms.

15. It is worth observing here, that if any person be seiz'd with a quartan, who has had it before, tho' long since, it terminates spontaneously after a few fits, of whatever age or constitution he be (q).

Soon goes off when it comes a second time.

16. I have always been of opinion that vernal intermittents might be wholly left to themselves, having never known a single person destroyed thereby; and on the contrary have observed that the attempting their cure, especially by evacuating medicines, tended only to render them more obstinate (r). But if the patient will

Vernal intermittents how to be treated.

(q) This observation is sometimes contradicted in practice.

(r) In general, vernal intermittents are not dangerous, and may be suffered to go off spontaneously; but sometimes physicians find it necessary to attempt their cure; otherwise they are

Sect. I. will not be satisfied, unless something be done to relieve him, various methods may be successfully employ'd for this purpose, as I have frequently experienced.

Some-
times cur'd
by a vo-
mit,

Some-
times by
glysters.

17. A vomit seasonably given, so as to have done working before the fit begins, sometimes proves a cure; especially if a moderate dose of syrup of white poppies, or any other opiate, be given after the operation is over. Sometimes diaphoretics cure, especially in *vernal quotidian*s, by promoting the sweat that breaks out towards the end of the fit, provided the patient be well covered, and the sweat continued as long as he can bear it; for the juices not being very thick in this season, the disease is perfectly cured, which would otherwise return: but this never happens in autumn. I have also sometimes cured *tertians* by giving glysters upon three or four of the intermediate days.

Copious
bleeding
retards the
cure.

18. But if bleeding be used too freely (*s*), which inconsiderate persons easily yield to on account of the season, or the spirits, which should directly attempt the business of despumation, be so far impoverish'd by the preceding weakness of the patient, as to be unable to perform it, *vernal tertians* may then withstand all our endeavours, and perhaps prove as lasting as *autumnal ones*; tho' they do not usually continue so long, but either go off spontaneously, or soon give way to the use of a few gentle remedies.

Autumnal
intermit-
tents de-
scribed.

19. But *autumnal intermittents*, of which I am now to treat, are not so easily conquered. When the constitution is epidemic they usually appear about *June*, but otherwise not till *August*, or the beginning of

apt to prove inveterate in some constitutions, and occasion other obstinate disorders. And it is observable, that they are commonly cured by evacuating medicines, such as vomits; gentle laxatives, sudorifics, blisters, and sometimes bleeding. So that it may seem strange our author should except against a method, which yet in the next paragraph he lays down for safe and successful.

(*s*) There is often no necessity for bleeding at all; it may however be used to advantage when the intermittent, at its first coming, resembles a continued fever, and is accompanied with great heat, and a delirium, the patient in the prime of life, of a sanguine constitution, and accustomed to drink either malt liquors, or wine freely; but when the stomach is foul, and the patient not plethoric, bleeding is pernicious, because it checks the healthful evacuations by the pores, whence this disease is rendered more stubborn, and made chronic, as experience shews.

September, and very rarely in the following months. Chap. 5.
When numbers are seized at the same time, we may generally observe that the fits come exactly in the same manner, and at the same hour of the day, a little sooner, or later perhaps, unless this order be disturbed in some persons by remedies that either hasten or retard the coming of the fit.

20. It must likewise be noted, that it is a difficult matter at the first appearance of intermittents, especially of those that are epidemic in *autumn*, to distinguish them exactly; because, at this time, they are accompanied with a continued fever; and for some time afterwards, unless great attention be given, nothing more than a remission can be discovered; but by degrees they perfectly intermit, and put on a form entirely agreeable to the season of the year.

Hard to be distinguished.

21. They are, however, either *tertians* or *quartans*; (but the latter are deservedly accounted the genuine product of *autumn*) and, in reality, so much alike, that they frequently vary, at least for a time, from one to the other; shortly after, perhaps, re-assuming their pristine form. But *vernal tertians* never assume the shape of *quartans*, because they differ widely from each other; nor have I ever seen a *quotidian* happen in this season, unless a *double tertian*, or a *triple quartan* should seem to deserve that name.

22. I judge that these intermittents are occasioned nearly in the following manner; viz. as the year advances the blood is likewise proportionably enrich'd, (just as vegetables shew the course of the year by their growth and decay) till it comes to its height, and ultimate vigour; after which, keeping pace with the time of the year, upon the declension thereof, it also declines; and more particularly when some accidental cause contributes thereto, as great loss of blood, taking cold, the use of indigestible and excrementitious food, unseasonable bathing, and the like. For the blood, being in this depress'd state, is subject to every morbid impression, that any constitution of the air may communicate to it, which, at this time, tends to produce intermittents, epidemically. And to this the immediately succeeding ebullition tends, which happening sometimes in an extremely vitiated blood, occasions a bad fever, accompanied with several malignant and dangerous

The cause of autumnal intermittents.

Sect. I.  symptoms. But from whatever cause it arises, the blood, having lost a considerable share of its spirits, and being greatly parch'd by the heat of the preceding summer, will perform its ebullition slowly, and require much time to finish its depuration (t).

Whence
so hard to
cure.

The time
spent in
the effervescence.

The same
in conti-
nued fe-
vers and
quartans ;

23. Now to shew clearly how difficult it is to cure autumnal intermittents, the dissimilitude between the continued and intermittent fevers of this season must be well considered ; which chiefly consists in this, that continued fevers carry on the effervescence once begun, regularly and uninterruptedly to the end of the disease ; whilst intermittents perform the business by parts, and at different times : but in both the effervescence is finished in about three hundred and thirty six hours, the precise time that is ordinarily requir'd for the depuration of the mass of blood in a human body, when the business is wholly left to nature ; in the same manner as wine, beer, and cyder have each a peculiar time wherein their depuration is finished.

24. But tho' the blood sometimes in *intermittents*, as it happens in a *quartan*, attempts, and at length finishes its depuration in six months ; yet by an exact computation it will appear that there is no more time employ'd here, than is, for the most part, naturally spent in compleating the depuration in continued fevers. For fourteen times twenty four hours, or fourteen natural days, make three hundred and thirty six hours ; so that allowing five hours and a half for the duration of every fit of a *quartan*, the whole will be equal to fourteen days, that is, three hundred and thirty six hours. If now it should be said that a *quartan* sometimes lasts above six months, which also holds in other intermittents ; I answer, that the continued fevers of this constitution are likewise often prolonged beyond fourteen

(t) This account of the cause of *autumnal intermittents* is not a little obscure and unsatisfactory ; and it may seem strange that this great man, who was so profess'd an enemy to hypothetical speculations, should, notwithstanding, so frequently attempt to reason upon matters, which lie so far out of the reach of the acutest understanding, that a little attention to the subject will convince us of the impossibility of arriving at any certain and demonstrative knowledge thereof. Besides, is it not trifling to make such nice researches into causes, that, in all probability, will always remain latent, whilst the effects are overlooked, from which alone we are to expect any advantage?

days :

days: but, in both cases, if care be taken to keep up the effervescence in a proper manner throughout the course, and especially towards the declension of the disease, the despumation will be finished in the time above-mentioned. Whereas if the fermentation be unseasonably check'd by cooling medicines, or glysters, in this stage, no wonder the disease proves lasting: the procedure of nature being by this means disturbed, and the texture of the blood in a manner loosened or broken, so that it cannot effectually attempt the despumation; which also sometimes happens spontaneously in weakly constitutions, unless drooping nature be assisted with cordials to enable her to finish the business of despumation.

: 25. It must likewise be further observed here, that what has been said of the continuance of the fermentation is to be understood only of such fevers as have arrived to a fixt state; for there are fevers, both of the continued and intermittent kind, which are of a variable nature, and do not reach the limited period in their effervescence. Such are those that sometimes arise from a slight error in the non-naturals, as in aliment, drink, air, and the like: but they often terminate in a short time; as they also do in young persons whose blood is pure, and full of spirits. For as their fevers proceed from a certain spirituous, subtle, and volatile matter, they finish their fermentation speedily, and go off.

But different in some fevers.

26. Now in order to raise a fermentation, it is necessary that the fermentable matter, whether blood, wine, or any other liquor, be of so viscous and tenacious a nature, as to detain, and, as it were, envelope the spirits therein contained; yet so as they may be able to be moved briskly in the liquor, but not to fly off. Let it be remembered, however, that the liquors above-mentioned must not be so viscous, as to oppress the spirits entirely, and so prevent their being moved at all (u).

The requisites for fermentation.

27. These

(u) It will not seem strange that we have here so lame and imperfect an account of the requisites for fermentation, if it be considered that our author might not perhaps be eminently skill'd in chemistry, and also that in his time this extensively useful science had received little improvement, and was far short of the flourishing state we now see it in. Whoever desires to see a particular account of fermentation, may have recourse to *Boerhaave's Chemistry*, Vol. 11. where he will find the

Sect. I.

Intermittents how to be treated.

27. These particulars being laid down, which I conceive are rational and well-grounded, it will not appear strange that I propose no other method of cure in intermittents than seems necessary to be used in continued fevers, to finish the business of their despumation in a proper manner: since they differ, as to the manner wherein nature usually expels the morbid matter: *viz. by means of an effervescence limited to a fixt time*: tho' with respect to their kinds and the peculiarity of their nature, I own they differ greatly from continued fevers, and from each other likewise. The curative indications therefore must be taken either (1) from a careful observation of the steps which nature takes to overcome the disease, that so we may quicken the fermentation already raised, and by this means recover the patient: or (2) we must endeavour to investigate the specific cause, in order to remove the disease by effectual and specific remedies.

28. I have tried both methods with great care and application; but have not hitherto been able to cure *autumnal intermittents* before they had finished their stated fermentation above specified, however disagreeable it has been to the patients to wait so long for their recovery. If therefore any one is possessed either of a certain method, or a specific remedy that will not only stop the progress of, but thoroughly cure these disorders, I think he ought to discover it for the good of mankind; and if he does not, I will venture to say, that he neither deserves the character of a good, nor of a wise man. For it is not acting the part of a good man, to convert to his private advantage what might prove so eminently serviceable to the public: nor of a wise man to deprive himself of the blessing he might justly expect from heaven, by endeavouring to promote the public good. For honour and riches are held in much less esteem by good men than virtue and wisdom.

Bleeding and purging unsafe in autumnal intermittents.

29. But tho' it be difficult to cure *autumnal intermittents*, yet I will set down what I have found do most service in them. Frequent experience has taught me that it is very dangerous to attempt the cure by purging, (unless in the way hereafter to be mentioned) and

the subject largely treated: or to Dr *Shaw's* Chemical lectures, where it is treated with great clearness, method and conciseness.

especi-

especially by bleeding. For in *tertians*, particularly Chap. 5. in a very epidemic constitution, if bleeding does not prove a present cure, it prolongs the disease even in young, strong, and otherwise healthy subjects; but aged persons, after having long struggled with it, are destroyed thereby, their death being generally immediately preceded by a mortal inflammation of the tonsils, as abovementioned (w). Again, bleeding causes those symptoms to come sooner, which, as we said above, accompany autumnal intermittents at their decline, or directly succeed them; but it is so pernicious in *quartans*, as to occasion the disease to last a year, in young persons, which otherwise would have gone off in six months. And in the aged, who, if bleeding had not been used, might have recovered in a year, there is danger of the disease being prolonged thereby beyond its stated time, and of its proving mortal in the end. What has been observed of bleeding holds also of purging, with this difference only, that the latter is less dangerous, unless it be frequently repeated (x).

30. I begin the cure of autumnal tertians in this manner: the patient being put to bed, and well covered, I endeavour to raise a sweat by giving sage posset drink, about four hours before the coming of the fit; and as soon as the sweat begins I give two scruples of the greater *Pil. cochicæ* dissolved in an ounce of the following mixture:

The cure of autumnal tertians.

Take of aqua vitæ, a pint; Venice treacle three ounces; saffron one dram: let them stand together in infusion for use (y).

These

(w) See above, Par. 12.

(x) Bleeding may sometimes be very advantageously used; as where the intermittent is suspected to proceed from an obstructed circulation in the *viscera* of the *abdomen*, to which hypochondriac persons, and such as have formerly been afflicted with the piles, are subject; and in pregnant women, who are in general plethoric, it is absolutely necessary, in order to prevent a miscarriage from the violent motion raised in the blood by the febrile symptoms. A single bleeding, properly directed, has remov'd a stubborn quartan. To guide us in this particular, the season of the year, the stage of the disease, the strength of the patient, the state of the fluids and solids, and other necessary circumstances must be maturely considered and compared.

(y) Many inconveniences may justly be apprehended from the use of this extremely heating medicine, in young persons of a san-

Sect. 1. These remedies being taken as directed, the sweat is to be encouraged for some hours after the usual time of the coming of the fit, with care to prevent checking it, which might otherwise be occasioned by the operation of the purgative.

Successful-
ness of the
method. 31. I have found this more successful in the cure of this disease, than the giving the common decoction, suited to the same intention, made with *gentian root*, *the tops of the lesser centaury*, &c. and a little *sena* and *agarick*. For as it causes two contrary motions at once, *viz.* sweating and purging, it produces the same effect as the decoction, by disturbing and interrupting the usual course of the fit; and is more effectual, and as safe. Thus I have cured abundance of autumnal intermittents, and could not find out a better method during these years (2).

Manner of
treating a
double
tertian. 32. When a *tertian* has varied its form, and is become a *double tertian*, on account of the patient's having been weakened, either by evacuations, or any other way, a sweat must likewise be raised, as above directed (30) and at the same distance of time from the coming of the next fit, either by giving the remedy there recommended, or some other powerful sudorific, which may also be repeated in the succeeding genuine fit: but the *Pil. cochicæ* must be omitted, because 'tis unsafe, as well as useless, to weaken the patient more by purging, and by this means promote the doubling of the fits, when he has been already debilitated thereby. In extreme weakness from this cause I prescribe the following electuary.

The elec-
tuary. *Take of the conserve of flowers of borage and bugloss,*
each an ounce; conserve of rosemary, half an ounce;

a sanguine constitution; so that if sweating be judg'd proper, it would be safer in most cases to give some mild sudorific, with frequent draughts of sack-whey, sage-tea, or the like.

(2.) This method seems impracticable, unless in strong phlegmatic constitutions, for in tender, weak, and delicate habits, the exciting two such directly contrary motions may be attended with fatal consequences; and this may be the reason it has not hitherto greatly prevailed, notwithstanding the uncommon deference that has been universally paid to our author's judgment. The present practice is highly improved both as to the certainty and safety of removing all kinds of intermittents, but the procedure is very different from that here directed.

candied citron-peel, and nutmeg, and Venice treacle, of each three drams; confecti^on of alkermes, two drams, mix them up into an electuary; of which let him take the quantity of an hazel nut, morning and night; drinking after it six spoonfuls of the following julap.

Chap. 5.

Take of the distill'd water of meadow sweet, and treacle water, of each three ounces; syrup of cloves an ounce; mix them together.

The julap.

Instead of the julap I sometimes give some simple plague water, sweetened with sugar; at the same time forbidding the use of glysters, and allowing chicken broth, water-gruel, &c. by way of diet.

33. With respect to *quartans*, whoever is but slenderly skill'd in physic cannot, I conceive, be ignorant how unsuccessful all the usual methods of cure hitherto directed have proved, unless by means of the *bark*, which yet more frequently checks, than cures the disease. For after it has lain dormant for two or three weeks, and the patient has had a short respite from its violence, it returns afresh as severely as before, and cannot generally be conquered in a short time, notwithstanding the bark be frequently repeated. This however shall not hinder me from communicating what I have experienced in relation to the method of giving it.

Quartans
how to be
treated.

34. (1) The greatest caution must be had not to give it too early, namely, before the disease be in some measure spontaneously abated, unless the extreme weakness of the patient requires it to be given sooner; for the giving it too soon may render it ineffectual, and even fatal, if a sudden stop be thus put to the vigorous fermentation raised in the blood in order to its despumation (a). (2) We must not order purging, much less bleeding,

The bark
how to be
given.

(a) The ill consequences attending the over hasty use of the bark in this case should seem owing to the roughness and astringency it is manifestly possessed of; whereby the febrile matter is prevented from going off, and perhaps driven back upon some of the noble internal parts: whence the intermittent is either changed to a continued fever, that generally proves of a bad kind, or otherwise to some obstinate chronical disorder; as a dropsy, consumption, scirrhus liver, jaundice, cachexy, &c. And in reality, upon this account, unless proper evacuations can be made before giving it, it is much safer to wait, if the disease

Sect. 1. bleeding, in order to carry off a part of the febrile matter, and render the bark more effectual; for they both weaken the tone of the parts, whence the disease returns so much the more speedily and certainly, after the virtue of the bark is spent. It were better, in my opinion, to impregnate the blood with this medicine by degrees, and at distant intervals from the fit, rather than endeavour to stop it at once, just upon its coming; for by this means the bark has more time to produce its full effect in, and, besides, the mischief is avoided that might happen by putting a sudden and unseasonable stoppage to the immediately approaching fit. (3) The bark must be repeated at short intervals, that the virtue of the former dose may not be entirely gone off, before another be given; and by repeating it frequently the disease will, at length, be perfectly cured.

35. These reasons led me to prefer the following method of giving the bark.

The electuary.

Take of the Peruvian bark, one ounce; syrup of roses, two ounces; make an electuary thereof; take the quantity of a large nutmeg, every morning and night, on the intermediate or well days, till the whole be taken; and let it be repeated thrice, interposing a fortnight between each time (b).

36. The

disease will give leave, till its violence be abated by a few fits, and a portion of the morbid matter discharged; which is partly agreeable to our author's sentiments on this head.

(b) The simplicity and inelegance of this electuary are not sufficient reasons to reject it, tho' the method may upon the whole be liable to exception; and therefore I shall here subjoin some experienced rules and cautions, relating to the method of giving the bark.

(1) The general rule that forbids exhibiting the bark, whilst the urine remains high-coloured, and lets fall no lateritious sediment, will admit of an exception, frequent experience having shewn, that if the habit be not over-charged with vitiated juices, the *viscera* be sound, and manifest no signs of internal inflammation, this valuable medicine, preceded by proper evacuations, may be given with all desirable advantage and safety, even to the aged, debilitated, and young persons of a lively, florid constitution. (2) When the heat and other symptoms thereon depending are violent, nitre is advantageously mixed with it. (3) If it takes downwards, *liquid laudanum* may be given after each dose, or it may be made up into an electuary with a due quantity of *diascordium*. (4) It may be mixt with different ingredients, and adapted by this means to all the complications of

36. The bark might perhaps prove as successful in *vernal* and *autumnal tertians* as it does in *quartans*: but, to speak ingenuously upon this occasion, in children and young persons, affected with either of these diseases, I think it best to forbear the use of medicines, and make no change as to air and diet; having hitherto found no inconveniency in leaving the cure wholly to nature, at which I have often been surprized, especially in infants; for the depuration of the blood being finish'd, these distempers go off spontaneously. But contrariwise, if (1) a slender diet be directed, or (2) purgatives be now and then given, as they generally are, under pretext of opening obstructions, and discharging the humours lodged in the first passages, or (3) especially, if bleeding be used in an epidemic constitution, the disease will be considerably prolong'd, and also accompanied with several dangerous symptoms.

Chap. 5.

Medicines not needful in children and young persons.

37. But in aged persons, affected either with *autumnal tertians* or *quartans*, there is danger of these diseases becoming not only obstinate, but mortal; for which reason, if the bark and every other method prove ineffectual to a cure, nature must at least be supplied with such helps, as may enable her to finish her work. For doubtless, in weak bodies, unless the fermentation be kept up by cordials, a strengthening diet, wormwood wine, and the like, the patient will be debilitated by irregular and ineffectual fits, and the disease

The aged require cordials, and a strengthening diet,

of intermittents. (5) The palate should be consulted with respect to the choice of a proper form; but where it can be taken in powder, it generally proves more effectual than in decoction, infusion, tincture, or extract. (6) The dose should be moderate, and often repeated. (7) It must never be given immediately before the coming, nor in the height or declension of the fit. (8) During a course of the bark, moderate exercise will do very considerable service; but all kinds of medicines must be refrained that have a great tendency to agitate the juices, and disturb the circulation. For efficacious and elegant preparations of the bark, recourse may be had to *Dr Shaw's Practice of Physic*, vol. I. p. 140. 4th ed. and his *Chemical Lectures*, p. 231.

De Gorter tells us that an ounce of the bark has been taken at once, without occasioning any inconvenience, and yet has entirely removed a *quartan*; and adds that he has known some instances where the patients have taken the whole quantity directed at a time, from whose imprudence he learnt that it is needless to be so timorous in determining the dose. See his *Med. Compend. tom. 1. p. 274.* And see also p. 278. of our author.

Sect. 1. continue, till a violent fit comes, which, by reason of his extreme weakness, may destroy him in the cold fit. And this frequently happens in aged persons, who have been weakened by a long course of purgatives; whereas they might have been supported, at least for a short space, by some sufficiently strong cordial.

And change of air. 38. When the time required for the despumation of the blood is finish'd, or even earlier, persons in years should remove to a very different air, or, which is better, to a warmer climate, or at least leave the place where they were first seized with this disease. It is very surprizing how much a change of air conduces to a perfect cure at this juncture, but before it is not only needless but improper. For tho' a person were to go to a warm *Southern* climate, the blood notwithstanding, being once reduced to this morbid state, must necessarily finish its depuration, which would vainly be expected from breathing a new and unusual air, till the motion thereof be mended, and so far perfected, as to be capable of recovering a healthful state. Such a remarkable change of air, therefore, is to be deferr'd till the distemper can be removed; so that in a *quartan*, for instance, which arose in *autumn*, it should be deferr'd till the beginning of *February* (c).

If not, the fermentation to be quicken'd. 39. But if the patient does not care to change the air, or cannot conveniently, he ought at this juncture to make use of a medicine of sufficient strength at once to promote, and, if possible, to finish the languishing fermentation: for which purpose I would advise the following.

The mixture. *Take of the electuary of the egg, or Venice treacle, one dram and a half; aqua cœlestis, or common aqua vitæ, two ounces: make a mixture, to be given two hours before the fit.*

(c) The present practice can abundantly furnish us with instances of the recovery of such patients by a removal to a warmer air, when the disease had baffled all other remedies; and perhaps it will be generally allowed to be needless, if not dangerous, to defer it, till the constitution be nearly worn out; which may probably be the case, before the distemper be so far spent, as our author seems to judge requisite, in order to make an attempt of this kind with safety and certainty.

I have used this medicine with success at the declension of the disease; but I acknowledge that if such heating medicines be given sooner, they either double the fit, or change the disease to a continued fever; which has also been observed by *Galen*. They may be given with caution to young persons in this disease, but are unsafe in children (*d*).

Chap. 5.

But not till the declension of the disease.

40. Before I quit this subject, I must observe that what has been said concerning the continuance of *autumnal intermittents*, and the time required for the depuration of the blood, is to be understood of that alone which nature usually finishes by means only of the common medicines in use. For in treating of these matters my intent is not to discourage able and diligent physicians from searching after better methods of cure, and more effectual remedies in these diseases; so far otherwise, that I do not despair myself of discovering, in time, such a method, or remedy.

41. After the disease is cur'd, the patient must be carefully purged; for an almost inconceivable number of diseases proceed from want of purging after autumnal intermittents, and I am astonished this is so little noted and guarded against by physicians. For whenever either of these diseases affected persons in the decline of life, and purging was neglected, I could certainly foretel, that they would be seized with some dangerous disease afterwards, tho' they themselves had not the least suspicion of it, on account of their seemingly perfect recovery.

Purging necessary after it is gone off.

42. But purging must by no means be used till the disease is quite cur'd, because tho' the *natural parts*, or intestines, may seem to be cleansed hereby from the foul humours left there by the intermittent, yet fresh matter will soon be supplied by the return of the fever, occasioned by the violence of the cathartic, and the di-

But not before.

(*d*) It would now perhaps be thought rash, imprudent, and somewhat favouring of empiricism, to venture upon so fiery an alexipharmic, unless in some extraordinary case. For when the tone of the solids is already greatly relaxed, and the juices much impoverished, fatal effects may justly be apprehended from the use of such a remedy. But in the present improved state of physic we are happily supplied with much more gentle, yet as effectual medicines in this case; and the rough and violent methods of cure stand universally condemned and proscribed.

Sect. I. disturbance of the juices ; whence the disease will become more obstinate. And daily experience shews that such as in the declension of the disease comply with that theory which makes the cure consist wholly in removing obstructions, and evacuating the melancholy humour, suffer much by repeated purges ; which, whatever be the nature of the humour discharged, exasperate the fever, and so render it much more inveterate than it would otherwise have been.

Method of purging. 43. For this reason I never give a purge till both the perceptible fits are entirely gone off, and the alteration likewise (how slight soever it be) which is perceiv'd on those days, when the fit usually came ; and even not till a month afterwards. And then I prescribe a common laxative potion, ordering it to be repeated once a week for two or three months ; and a quieting draught to be taken in the evening after the operation, to prevent the return of the fit, which might otherwise happen from the disturbance which even the mildest cathartics are apt to raise (e).

The reasons for it. 44. I direct purging at these considerable intervals, that a relapse may not be apprehended ; which indeed might easily be caused by the too frequent agitation of the blood and juices (f) : but when there is no further danger from this quarter, I prescribe the following apozem.

Take

(e) Our author here judiciously cautions against exhibiting purgatives too early, whereby a relapse is frequently endangered. But it is not always necessary to purge, and is sometimes detrimental ; and tho' there may be cases where a purgative may be repeated twice or thrice with advantage, yet there are very few instances where a long course of purging may not prove very pernicious : so that this ought not to be esteemed a general rule.

(f) A dropfy is produced by frequent purgation, especially in a *semi-tertian* and a *quartan* : and this species of a dropfy is increased by purgatives, and either causes a return of the intermittent, or changes it into a continued fever of a bad kind ; but the body being strengthened by astringent, warm, stomachic, and antiscorbutic medicines, expels the water spontaneously.

When the intermittent is removed, nothing farther is to be done, only the patient should continue to take half a dram of the bark, every day for a month, or an ounce in two weeks after ; and thus there will be no fear of a relapse. If a vomit or purge be given soon after the cure, the disease generally returns : but as at this time the appetite is usually too quick and sharp,

care

Take of Monk's rhubarb, two ounces; the roots of asparagus, butcher's broom, parsley, and polypody of the oak, of each one ounce; of the inner bark of ash, and of tamarisk, each half an ounce; the leaves of agrimony, spleenwort and maiden-hair, each one handful; sena cleansed from its stalks, and moistened with three ounces of white wine, an ounce and half; dodder of thyme, half an ounce; troches of agaric, two drams; fennel seeds, four scruples: boil them together in a sufficient quantity of water to a pint and half; adding towards the end three ounces of the juice of Sevil oranges; lastly, strain off the decoction, and mix therewith of the syrup of succory with rhubarb, and of the magisterial syrup for melancholy, of each one ounce and a half. Take half a pint of it every morning for three days running, and let it be repeated as there shall be occasion.

Chap. 5.

45. I proceed now to enumerate the symptoms which accompany intermittents in their decline; and here it must be noted, that vernal ones have very few compar'd with autumnal; because they are neither so lasting, nor arise from such earthy and malignant juices.

Vernal intermittents have fewer symptoms than autumnal ones.

46. The principal of these symptoms, which occasionally happens, is a *dropsy*; wherein the legs first swell, and then the *abdomen*: it arises from a paucity of spirits, occasioned by frequent fermentations of the blood, in consequence of the length of the disease, especially in the aged; so that being extremely impoverished, it can no longer assimilate the juices taken in with the aliment, a crude and indigested quantity whereof is, at length, thrown upon the legs; and these being so distended as to admit no more, the remainder is discharged into the *abdomen*, and thus forms a *true dropsy*. But this disorder rarely happens in young persons, unless it has been imprudently occasioned by frequent purging during the course of the intermittent.

A dropsy a capital symptom in the latter.

47. A recent *dropsy* from the abovementioned cause is easily cured by aperients and purgatives; neither am I anxious about the consequences when it proceeds from this cause, for then I conceive great hopes of success: and, in reality, have recovered several by the use of the care must be had not to overcharge the stomach. *De Gorter, Med. compend. tom. 1. p. 152, 274.*

How to be treated.

Sect. I. apozem above set down, (44) even without the mixture of any thing more appropriated to the dropsy. But I have observed, that it is to no purpose to endeavour to cure it by purging, whilst the intermittent lasts, which only renders that disease more obstinate without relieving the dropsy; for which reason we must wait till the intermittent is conquered, and then the cure of the dropsy may be successfully undertaken (g).

Infusions proper in this case.

48. But if the distemper be so urgent as not to admit of this delay, the cure must be attempted by infusions of *horse-radish root*, *the tops of wormwood*, and *the lesser centaury*, *juniper berries*, *broom ashes*, &c. in wine; which not only give relief by supplying the blood with fresh spirits, but likewise seasonably assist nature now upon the point of overcoming the disease.

The rickets, and the method of curing them described.

49. Children sometimes become hectic after both *continued* and *intermittent autumnal* fevers. The *abdomen*, in this case, swells and grows hard, a cough also and other consumptive symptoms frequently arise, which manifestly resemble the rickets: such patients must be treated in the following manner. According to the age of the child (b) give it a spoonful or two, more or less, of the purging potion above set down, every morning, for nine days, intermitting a day or two if need be; and in the mean time the purgative must be so proportioned, either by increasing or diminishing the dose, as to give but five or six motions a day. When the course of purging is over, let the *abdomen* be anointed with an opening liniment for some days: I generally use the following.

A liniment for anointing the abdomen.

Take of oil of lillies and tamarisk, each two ounces; the juice of briony roots and smallage, of each one ounce; boil them together till the aqueous moisture is exhales; then add thereto of the ointment of marshmallows, and fresh butter, of each an ounce; of gum-ammoniac, dissolved in a proper quantity of vinegar, half an ounce; of yellow wax, enough to make the whole into a liniment.

(g) In this case all the water has been frequently discharged in a short time spontaneously by the conduits of urine, without the help of any medicine. *De Gorter, Med. Compend. tom. 1. p. 152.*

(b) See Sect. I. Chap. IV. Par. 35.

By

By this method I have cured several children of the true Chap. 5.
rickets. But the caution, before inculcated, concern-
ing purging, must also be observed here (i).

50. It is worth observing, that when children have been long afflicted with autumnal intermittents, there is no hopes of vanquishing the disease till the *abdomen* (especially that part of it near the spleen) swells and grows hard; the distemper abating in the same degree, as this symptom manifests itself. Nor can we, perhaps, more certainly foretel that the intermittent will go off in a short time, than by carefully attending to the swelling of the *abdomen*, in children, and to that of the legs, which sometimes happens in grown persons.

The swelling of the *abdomen* in children, and of the legs in grown persons, a good sign.

51. The swelling of the *abdomen* which happens in children after intermittents, in those years wherein the constitution of the air has a tendency to produce autumnal intermittents *epidemically*, appears to the touch, as if the *viscera* contained matter hardened to a *schirrus*; whereas that which comes in other years yields to the touch, as if the *hypochondria* were only distended by wind. Hence it is worth notice, that the true rickets rarely happen, except in those years wherein *autumnal intermittents* prevail.

The true rickets when most common.

52. A pain and inflammation of the tonsils, after continued or intermittent fevers, attended first with a difficulty of deglutition, succeeded by a hoarseness, hollow eyes, and *hippocratic* face, certainly foreshew imminent death, without any hopes of recovery. And I have generally observed that profuse evacuations, in patients almost worn out by the violence of the disease, together with the long continuance thereof, have conspired to produce these fatal symptoms.

Pain and inflammation of the tonsils, &c. bad signs.

53. There are several other symptoms, which usually follow these diseases, from a total neglect of purging, or an improper use of it; but I shall not mention them here, as they all require nearly the same method of cure, *viz.* the purging off the sediment deposited by the preceding effervescence, which, by its continuance in the body, has given rise to these bad symptoms. It may however be proper here to take notice of a considerable symptom, which neither yields to purging, nor any other evacuation, and especially not to bleed-

(i) See above, Par. 47.

Sect. 1. ing, but is rendered more violent thereby. This is a peculiar kind of *madness*, which sometimes follows upon inveterate intermittents, especially quartans; and yields not to the ordinary method of cure, but after copious evacuations degenerates into a lamentable kind of folly for life.

A peculiar kind of madnes, how to be treated.
Mischief of repeated bleeding and purging here.

54. I have often been surprized to find no mention made of this disorder by practical writers; as I have frequently met with it; and whereas the other kinds of madnes usually yield to plentiful bleeding and purging, this will bear neither: for when the patient is almost recovered, if a glyster only of milk and sugar be given, it immediately returns; and if repeated bleeding and purging be used, these evacuations may indeed abate the violence of the disease, but will certainly render the patient an idiot, and quite incurable. Nor will this seem strange, if it be considered that the other kinds of madnes proceed from the too great spirituousness and richness of the blood, whereas this arises from its depressed state, and vapidty, as I may term it, occasioned by the long fermentation carried on by the fever, whence the spirits become utterly unable to perform the animal functions.

The process of the cure.

55. I treat this disorder in the following manner: I give a large dose of some strong cordial three times a day; for instance, of *VENICE treacle* (*k*), *the electuary of the egg*, *the countess of KENT's powder*, *Sir WALTER RAWLEIGH's powder*, or the like, dissolved in *plague or treacle water*, or any other cordial water. Cordials may also be given in other forms. During the course of the cure a slender, but restorative diet, and generous liquors must likewise be used; and the patient should keep his room, and lie much in bed. This regimen may occasion a costiveness, whence a fever may be apprehended, especially from the use of these heating medicines: But there is in reality no danger of it, because the spirits are so far wasted by the preceding disease, as not to be able to raise a new fever. In a few weeks the disorder will abate by degrees, and then the cordials may be omitted for a few days; but the restorative method of

(*k*) *Venice treacle* is indeed a warm opiate, but I much doubt if it deserves to be entitled a cordial in this case, as the opium it contains should seem to relax and debilitate, more perhaps than the other ingredients will strengthen and raise.

living

living must be continued, and the cordials repeated, Chap. 5. after a short interval, and persisted in till the perfect recovery of the patient. 

56. This method has sometimes cured a *madness*, that did not succeed *intermittents*, particularly in cold and weak constitutions. I was called last year to *Salisbury* to consult with my friend Dr *Thomas* for a lady, who was greatly disordered in her senses, and she was recovered by it, tho' she was then in her pregnancy. Successful in another species of madness.

57. But the common kind of *madness*, wherewith lively persons are usually seized, without a preceding fever, is of another kind, and must therefore be treated in a very different manner, with respect to evacuations; though even in this kind also such medicines should be given, as strengthen the brain and animal spirits. I shall here subjoin the cure thereof, though it does not properly belong to this place, to prevent any person's being deceived by the similitude of the diseases.

58. In young persons of a sanguine constitution let eight or nine ounces of blood be taken away from the arm; and repeat the operation twice or thrice, at the distance of three days; after which bleed once in the jugular: more frequent bleeding rather renders the patient an idiot than cures him (1). Then give half a dram, The common kind of madness how to be treated:

(1) This appears too limited a direction for bleeding, which in all cases should be prudently suited to the circumstances and exigencies of the disease. The kind of madness here described is rarely found to yield, especially in young and sanguine persons, without bleeding both more frequently and plentifully, along with brisk vomits, repeated, as there is occasion, and the use of cold bathing; neither of which latter helps our author has mentioned. *Campfire* has been recommended in a large dose, (*viz.* half a dram, morning and night) in maniacal disorders of the bold kind by Dr *Kinneir*, who tells us that the practice has been attended with success. See *Abridg. of the Phil. Transact.* published in 1734. Strong opiates, after proper evacuations, may be sometimes used with advantage.

Hoffman recommends warm bathing in *maniac disorders*, in the following terms. "It is not from reason alone, (says he) but from a long course of experience, that we assert the excellence of this remedy in these cases; for we have seen numerous instances, both of inveterate melancholy, and raving madness, happily cured by its means, after the use of bleeding, diluting medicines, and medicines consisting chiefly of nitre. And this kind of cure I have recommended to many foreign physicians, who, as well as myself, find it highly serviceable and beneficial. Whence I have often wondered that this method of cure

Sect. I. dram, or two scruples of *pil. ex duobus*, according as it operates, upon a set day, and repeat it only once a week, precisely upon the same day of the week, till the disorder goes off. By this method the humours, which in this disease usually fly up to the head, will gradually be diverted to the lower parts.

59. On the intermediate days, during the course of the cure, give the following electuary, or some other medicine of the like kind.

A cordial
electuary.

Take of the conserve of Roman wormwood, of rosemary, and of Venice treacle, each one ounce; of the conserve of orange-peel, of candied angelica and nutmeg, each half an ounce; syrup of cloves, enough to make the whole into an electuary; of which let the quantity of a nutmeg be taken twice a day, drinking after each dose a small draught of canary, wherein cowslip flowers have been infused cold.

60. The continued fever and intermittents above described were almost the only prevailing epidemic diseases, during the constitution of the years 1661, 1662, 1663, and 1664. How many years they might have prevailed before I cannot say; but this I certainly know, that from 1664 to 1667 they rarely appeared at London.

Particulars
concerning
the small-
pox of this
constitu-
tion.

61. I should treat likewise of the *small-pox* of that constitution, since, as I before observed (*m*), they vary considerably; according to the different constitutions wherein they appear: but as I did not sufficiently attend to them at that time, I shall only mention this peculiarity of them, *viz.* that in those years they prevailed much in the beginning of *May*, but went off, upon the coming of the *autumnal epidemics*, namely the *continued* and *intermittent fevers*. The tops of the eruptions had small pits for the most part, about the size of the head of a small pin, and in the distinct kind the *eighth day* was attended with most danger; at which time the sweat or moisture, which had hitherto conti-

for madness should be so much neglected in our time; whilst bathing has, from the earliest ages, been employed for this purpose: insomuch that the antient physicians had recourse to it as a thing they entirely depended upon." See *New experiments, &c. upon mineral waters*, by Dr Fred. Hoffman, translated by Dr Shaw, p. 188. Par. 16.

(*m*) See Sect. I. Chap. II. Par. 12, 16.

nued,

nued, went off suddenly, and the external parts became dry, neither could the sweat be raised again by any kind of cordials; a *delirium*, great restlessness, pain and sickness, a frequency of making urine in small quantities succeeded, and the patient died in a few hours very unexpectedly.

S E C T. II. C H A P. I.

The epidemic constitution of the years 1665, and 1666, at London.

1. **T**H E preceding winter having been extremely cold, and accompanied with a continued frost till spring, which went off suddenly towards the end of *March*, that is, in the beginning of the year 1665, according to the *English* computation of time, there then arose *peripneumonies*, *pleurisies*, *quinsies*, and other inflammatory disorders, which quickly made great devastation; and with these there also appeared a continued *epidemic fever*, of a very different kind from those of the foregoing constitution, which usually seiz'd scarce any body at that time of the year. For (1) the pain in the head here was more violent; (2) the vomitings more copious; (3) and the looseness, which was generally prevented in the former fevers by a vomit, was increased thereby in the present fever, and yet the vomiting continued; (4) the external parts were dry, as in the fevers of the preceding constitution; but after bleeding, especially, a sweat was easily procured, and being encouraged soon abated the symptoms; and this might be done at any time of the disease, whereas in those fevers it could not be safely attempted till the thirteenth or fourteenth day, and was not easily raised then; (5) the blood taken away in this fever often resembled that of persons in pleuritic and rheumatic disorders, but was less sily.

The diseases of this constitution enumerated.

2. These were the diagnostic signs of this disease at its rise; but towards the middle of the year, the *plague* appeared, accompanied with several of its peculiar symptoms; as *carbuncles*, *buboes*, &c. and spreading more

The *plague*, and its progress described.

and

Se&t. 2. and more every day, came to its height about the *autumnal equinox*, at which time it destroyed near eight thousand persons in one week, tho' at least two thirds of the inhabitants had retired into the country, to avoid the infection. Afterwards it began to abate, and was so far conquered by the winter's cold, as to seize very few during that season, and the following spring, when it went off entirely : whereas the fever prevailed (tho' not so epidemically) all the subsequent year, and continued to the spring of the year 1667. I proceed now to treat of this *fever*, and the *plague*.

C H A P. II.

Of the pestilential Fever, and Plague of 1665, and 1666.

Some fevers falsely esteemed malignant.

I. I Have already cursorily observed, that some fevers are usually ranked amongst those of the malignant kind (*n*), whereas the great violence of their symptoms, which seems to countenance this opinion, does not proceed from the contagious nature of the disease, but from unskilful treatment. For when we do not closely enough attend to the solution thereof appointed by nature, but inconsiderately pursue a different method, we greatly disorder the animal œconomy ; whence the disease, contrary to its nature, now different from what it used to be, is accompanied with several irregular symptoms. But a true *malignant* fever rarely happens (*o*), and

A true malignant fever rare.

(*n*) See *Se&t. I. Chap. II. Par. 13.*

(*o*) The unskilful are frequently deceived by imagining a kind of malignity in diseases, and this error proceeds from a want of sufficient enquiry into the antecedent causes, and inattention to the symptoms and entire state of the disease ; and hence arise great mistakes in practice. It is not yet universally agreed on what is meant by the term *malignity*, whence it is difficult to form so clear and just an idea of it, as may enable us to apply it with certainty to some fevers, and authorise the method of cure thence derived. The fevers which are generally called malignant, upon examining their various symptoms, seem to proceed from a *coagulation*, or *dissolution* of the juices, and accordingly require a different treatment ; *volatile and attenuating medicines* being proper in the former, and *mild acids, cooling emulsions, agglutinants, hart's-horn jelly, &c.* in the latter.

And

and totally differs from other kinds of fevers, that are so called from the irregularity of the symptoms, being indeed of the same species with the plague, only not so violent: for which reason I will treat of the cause and cure of both in the same chapter.

2. That the air obtains a secret disposition, or temperature, productive of different diseases at different times, is apparent to such as consider that the very same disease, in one season, proves epidemic, and destroys great numbers, and in another seizes but few persons, without proceeding further: as is manifest in the *small-pox*, and more particularly in the *plague*, our present subject.

Chap. 2.
The air produces diseases by a secret disposition;

3. But of what nature the constitution of the air is, which gives rise to these diseases, I am as ignorant, as of several other things, about which philosophers can not agree (*p*): whatever it be, we ought at least to thank God that he permits pestilential constitutions of the air, productive of that great destroyer, the *plague*, to happen much more rarely than such as produce less fatal distempers: for the *plague* seldom rages violently in *England*, above once, in thirty or forty years (*q*). A few persons in different places die of this disease for some years after a great *plague*, and it usually goes off by degrees; because the pestilential constitution of the air continues still in part, and is not yet entirely changed to a more healthful state; this therefore should be esteemed only as the gleanings of a preceding harvest.

not easily discoverable.

And as these medicines act by manifest qualities, it may reasonably be inferred, that the fevers also arise from a manifest cause: so that the mistaken notion of malignity falls to the ground. The fevers that are generally esteemed of a truly malignant kind, proceed from some particular contagious qualities of the air, not cognizable perhaps by the senses, from corrupt and putrified aliment, the bite of venomous animals, &c. but these are not near so common as is usually imagined.

(*p*) There are many phænomena that exceed our narrow comprehension, which are not therefore to be contemn'd; but where the nature of the cause cannot be known from reasoning, the visible effect should always be carefully noted, in order from thence to form safe rules for practice.

(*q*) It is a common opinion, and countenanced by authors of great name, that we are necessarily visited with the plague once in thirty or forty years; which is a mere fancy, without foundation either in reason or experience; and therefore people ought to be delivered from such vain fears. See *Dr Mead on the Plague*, p. 70.

Sect. 2. To the same cause it is owing that the fevers which prevail for a year or two after a severe plague, are generally pestilential; and tho' some have not the genuine signs of the plague, yet they are much of the same nature, and require the like treatment, as shall hereafter be shewn.

Causes of the plague. 4. But besides the constitution of the air, as a more general cause, there must be another previous circumstance to produce the plague, viz. the receiving the *effluvia*, or *seminium*, from an infected person, either immediately by contact, or mediately by pestilential matter, conveyed from some other place. And when this happens in such a constitution, as we have mentioned above (*r*), the whole air of that tract of land is quickly infected with the plague, by means of the breath of the diseased, and the steam or vapour arising from the dead bodies, so as to render the way of propagating this dreadful disease by infection entirely unnecessary: for tho' a person be most cautiously removed from the infected, yet the air, received in by breathing, will of itself be sufficient to infect him, provided his juices be disposed to receive the infection.

Time of its rise, and its progress. 5. Tho' this distemper, when it is only *sporadic*, seizes some few persons, without any regard to the season, the infection being, as it were, communicated from one to another; yet when an epidemic constitution of the air likewise prevails, it arises in the intermediate season between spring and summer; this season being the fittest to produce a disease, the essence of which chiefly consists in an inflammatory state of the juices, as we shall afterwards shew. Again, this disease has its times of increase and declension, like other kinds of natural things. It begins at the time above set down, as the year advances it spreads, and as that declines it abates, till, at length, winter introduces a state of the air contrary to it.

If not influenced by the changes of the season, would prove exceedingly destructive 6. For if the changes of the season were to have no effect on this disease, the true pestilential *seminium*, unconquerable by any alteration of the air, would be conveyed from one person to another in a continued succession; so that when once it had got into a populous city, it would rage more and more, and never cease till it had destroyed all the inhabitants. But that the con-

(*r*) See *Par.* 3.

trary

trary frequently happens, appears from the number of Chap. 2.
the dead, which rose to some thousands in one week in *August*, but decreased very much, and was inconsiderable towards the end of *November* (s). I must own however, what some authors have likewise asserted, that the *plague* appears at other seasons of the year; but this seldom happens, and it is not then very violent.

7. Mean time I much doubt if the disposition of the air, tho' it be pestilential, is of itself able to produce the *plague*; but the *plague*, being always in some place or other, it is conveyed by pestilential particles, or the coming of an infected person from some place where it rages into an uninfected one, and is not epidemic there, unless the constitution of the air favours it. Otherwise I cannot conceive how it should happen that when the *plague* rages violently in one town in the same climate, a neighbouring one should totally escape it, by strictly forbidding all intercourse with the infected place: an instance of which we had some few years ago, when the *plague* raged with extreme violence in most parts of *Italy*, and yet the Grand Duke by his vigilance and prudence entirely prevented its penetrating the borders of *Tuscany* (t).

8. The *plague* usually begins with chills and shivering, like the fit of an intermittent; soon after, a violent vomiting, a painful oppression at the breast, and a burning fever, accompanied with its common symptoms succeed, and continue till the disease proves mortal, or the kindly eruption of a *bubo*, or *parotis*, discharges the morbid matter, and cures the patient. Sometimes the disease, tho' rarely, is not preceded by any perceptible fever, and proves suddenly mortal; the purple spots, which denote immediate death, coming out, even whilst the persons are abroad about their bu-

(s) This is readily accounted for by supposing an emendation of the qualities of the *air*, and the restoring of it to a healthy state, capable of dissipating and suppressing the malignity. See *Dr Mead* on the *Plague*, p. 66.

(t) It does not appear that the *air*, however corrupted, is usually capable of carrying infection to a very great distance; but that commonly the *plague* is spread from town to town by infected persons and goods: for there are numberless instances, where the *plague* has caused a great mortality in some towns, while other towns and villages, near them, have been entirely free. *ib.*

liness.

Sect. 2. *finess.* But it is worth observing, that this hardly ever happens but in the beginning of a very fatal *plague*, and never in its decline, or in those years wherein it is not *epidemic*. Again, sometimes swellings appear, without having been preceded either by a fever, or any other considerable symptom; but I conceive that some slight and obscure shivering always precedes the seizure: now such as are attack'd in this favourable manner may safely follow their business, as if they were in health, and need not observe any particular way of living.

The essence of this and other diseases inexplicable.

9. As to the essence of this disease, I do not undertake to define it with exactness (*u*); and whoever should call upon me to shew what it is that constitutes any particular species of a disease, might perhaps seem as impertinent, to the thinking part of mankind, as I should appear, were I to ask him the same question about a horse, for instance, amongst animals, or betony, amongst plants. For nature produces whatever she causes to exist by fixt laws, and a method of operating known only to herself, and conceals the essence and constitutive differences of her productions in the greatest obscurity. Hence every species of diseases, as well as of animals and vegetables, is endowed with certain peculiar and univocal properties, resulting from its essence. However, an enquiry into the manner of curing diseases, may proceed very successfully, tho' we are ignorant of their causes, because the cure of most diseases is not effected by this kind of knowledge, but by a suitable and experienced method.

The cause of the plague.

10. But to return to our subject: as the rise of all similar diseases is usually deduced by us, in our present ignorance of things, from some depravation of the first or second qualities, it is probable that the plague is a peculiar fever of its own kind (*w*), arising from an inflammation

(*u*) The specific nature of the pestilential *miasm*, (see the term explained in *Quincy's Physical Dictionary*) wherein the essence of the plague consists, is absolutely undeterminable *a priori*, as it does not come under the notice of the senses; so that all the knowledge of it we are to expect is only to be had from its effects, whence it should seem to be partly of a putrid, sulphureous, fermentative nature, and partly of a very acrimonious and caustic, but more of an alkaline than an acid nature.

(*w*) "The plague, or pestilential fever, is defined by *Hoffman*, the most acute of all the species of fevers, proceeding
" from

flammation of the more spirituous particles of the blood, which, by reason of their fineness and subtlety, seem most likely to receive it. When it is possessed of the highest degree of subtlety, it suddenly dissipates the natural heat, and destroys the patient, as is manifest in the beginning and height of an epidemic constitution. The bodies of such as perish thus suddenly by the violence of the disease, are totally covered with purple spots, the fibres of the blood being broke, and its texture wholly dissolved, by the violence of the intestine struggle.

Chap. 2.
 Whence it occasions sudden death.

11. Now this fatal catastrophe may be occasioned by the exceeding subtlety of the contagious matter, even without a febrile ebullition, or any other perceptible symptom; quite otherwise than when the morbid cause is not so subtle, and the instrument that endangers life more obtuse, which is often the case. To shew the difference by a familiar example: Let a needle, or any other sharp-pointed instrument, be forcibly thrust under a pillow, and instead of raising it up, as an obtuse instrument would do, it will go through it (x).

12. But

“from a contagious or poisonous *seminium*, or miasm, usually brought from the *Eastern* parts, and proving mortal, unless the poison be soon expelled by buboes and carbuncles, by the vigour of the vital motions or powers.”

It differs from other malignant, contagious and eruptive fevers in the following particulars. (1) It is the most acute of them all, and sometimes proves mortal the first or second day. (2) In our climate it is neither *epidemic* nor *sporadic*, but only caused by contagion brought from infected places. (3) It does not go off, like other putrid and malignant fevers, by a copious sweat, a looseness, &c. but is terminated *critically* by humours that come to suppuration. (4) The pestilential *seminium* readily adheres to spongy and porous matters, and is conveyable thus to a great distance, without any loss of its pernicious quality. And (5) the plague has this farther remarkable particularity, that its progress is check'd by cold; whence it seldom, if at all, prevails in a cold season, and in cold countries; but, on the contrary, rages violently and frequently in a hot season, and in warm climates.

(x) The simile here used is very inadequate, and not at all illustrative of the author's reasoning; and many such occur in his writings. It must be acknowledged, this method of illustration, when rightly applied, lets in great light to the argument; but if otherwise, nothing is more fallacious and inconclusive. False similes, and erroneous analogies always render matters more obscure, and create great confusion and perplexity in the mind. With respect to similes in particular, let it be remembered that, to be perfectly conclusive, the similitude,

Sect. 2. 12. But sudden death rarely happens, and only, as before intimated, towards the beginning, or increase of the *plague* (y). For this disease generally begins, like other fevers, with chillness and shivering, which are soon succeeded by heat, and this continues till the inflamed parts of the blood are expelled by nature to the emunctories, and there suppurated in the manner of common *phlegmons*. But if the inflammation be less considerable, it usually generates such fevers as are commonly called *pestilential*, as it frequently happens at the end of a *pestilential constitution*, and perhaps even a year or two afterwards, till that species of fevers becomes extinct.

The *erysipelas* nearly resembles the *plague*. 13. In my opinion, the inflammation which the *Latins* call *ignis sacer*, (and we *St Anthony's fire*, or an *erysipelas*, is a good-deal like the *plague*. For skilful physicians esteem it a continued fever, arising from the corruption and inflammation of the thinner part of the blood, which nature, to get clear of, throws out upon some external part of the body, where a tumor, or rather (for frequently there is no very remarkable tumor) a large red spreading spot, usually called a *rose*, arises; but the fever is *critically* terminated in a day or two by this tumor, or eruption, and is sometimes accompanied with a pain in the glands of the arm-pit, or groin, as in the *plague*.

Proofs thereof. 14. Moreover, the *erysipelas* begins much in the same manner as the *plague*, *viz.* with a shivering, followed by a feverish heat; so that such as have never had this disease before judge it to be the *plague*, till it manifests itself at length in the leg, or some other part. To this may be added, that some authors suspect there is a kind of malignity join'd with this disease, and accordingly place the cure of it in the use of sudorifics and alexipharmics (z). But the inflammation here, as soon as it has raised an ebullition, by means whereof the lightly parch'd particles of the blood are in a short time expell'd, goes off spontaneously, and does no farther mischief (a).

15. But tude should only be carried on between such things as fall under the same *genus*; as between animals and animals, plants and plants, minerals and minerals; and so of the rest.

(y) See above, *Par.* 8.

(z) *Vid. Sennert. lib. II. cap. XVI. de Febr. symptomat. contin.*

(a) The *Erysipelas* and *plague* greatly resemble each other in the

15. But the plague is much more violent than an *erysipelas*; being, by its exceeding subtlety, fitted to pass thro' the innermost recesses of the body like lightning, and suddenly destroys the spirits, and sometimes dissolving the texture of the blood, before nature, oppressed by the speedy progress of the disease, is able to raise a *feverish ebullition*, which is the common instrument she uses to expel whatever vitiates the blood.

Chap. 2.
The plague more violent than an *erysipelas*.

16. If my opinion, of this distemper's arising from inflammation, be controverted, let it be considered that the presence of a fever, and also several other particulars confirm it; as for instance (1) the colour of the blood taken away here, which plainly resembles that taken away in pleuritic and rheumatic disorders; (2) the dark livid colour of the *carbuncles*, not unlike the mark left by an actual cautery; (3) the *buboes*, which are equally disposed to inflammation, as other tumors of any kind, and terminate in abscesses, as most inflammations usually do; (4) the season of the year in which an *epidemic plague* commonly arises, seems likewise to strengthen my opinion; for at the same time, namely betwixt *Spring* and *Summer*, pleurisies, quinsies, and other inflammatory diseases usually become *epidemic*; and I never knew them more common than they were for some weeks preceding the beginning of the late *plague* at *London*. Neither is it at all material that the very same year, that proved fatal to so many thousands, was otherwise very mild and healthy, and that such as escap'd the plague never enjoyed better health; and likewise that those who recovered were not subject to a cachexy, and other indispositions, usually arising from the foul remains left by preceding distempers; and farther, that *imposthumes* and *carbuncles*, tho' of the largest size, after the inflamed particles, together with the *sanies*, was discharged, were easily cured by the common chirurgical methods.

Caused by inflammation.

the following particulars. (1) In their leading symptoms, viz. sudden shivering, loss of strength, violent pain in the head and back, vomiting, &c. (2) The expulsion of the malignant matter to the skin, between the third and fourth day, with an abatement of the symptoms. (3) A tumour, redness, and pain being first perceived in or near the groin, and thence descending to the feet. (4) In affecting the *parotides* when the head is threatened, and the glands of the arm-pit when the breast is endangered. (5) Inflaming the glands of the arm pit and breast. And (6) in the danger occasioned by the striking in of the morbid matter.

Sect. 2.

Alexi-
pharmics
only do
service as
sudorifics.

17. But here perhaps it may be asked, how it happens, if the *plague* be an inflammatory disease, that heating medicines, as most alexipharmics are, should be so successfully used, both for prevention and cure. To this I reply, that these medicines only relieve by accident, namely by means of the sweat which they procure, whereby the inflamed particles of the blood are exhal'd, and expell'd; but if they fail of raising a sweat, as it frequently happens, the blood being more inflamed by this additional heat, soon manifests the bad effects of such kind of remedies. As to prevention, I am well aware how much the use of warm antidotes is generally commended, but with what advantage has not yet appeared. Too free an use of wine, and the taking of other strong preservatives every day, at set hours, have occasioned this disease in numbers of persons, who otherwise might probably have escaped it.

18. As to the cure of these fevers, some perhaps will charge me with presumption and imprudence for undertaking to treat thereof, as having lived at some distance from the town, during the greatest part of the time that the late *plague* prevailed, and consequently being not sufficiently furnished with observations relating thereto. But since some physicians of greater abilities, who courageously staid in town at the peril of their lives, whilst the *plague* raged, have hitherto declined publishing what they have learnt of its nature from a large practice, it is hoped every good man will excuse me for communicating my sentiments of it, founded on a few of my own observations.

Manner of
treating
the *plague*.

19. And first, the indications of cure are to be considered; which must always be directed either (1) to assist nature in expelling the disease, by keeping closely to her method of procedure herein; or (2) distrusting the method she usually takes to overcome the intestine enemy, to substitute a different and safer one from art. But here perhaps some may object that the *plague* may also be successfully enough treated by *anti-pestilential* alexipharmics, with forms of which the works of practical writers abound. But whether the assistance this kind of medicines affords should not rather be ascribed to their apparent virtue of raising copious sweats, whereby they at the same time open a passage for the morbid matter to escape, than to any occult quality given them

by

by nature to expel the pestilential poison; admits of Chap. 2.
great dispute.

Dubious
how alexi-
pharmics
relieve.

20. Neither is there reason to doubt of these alone, but likewise whether the alexipharmics of other diseases do not relieve by promoting some kind of evacuation, rather than by any inherent specific virtue. For instance, whoever (with respect to the venereal disease) asserts that *mercury* and *sarsaparilla* are true alexipharmics for the *virus* thereof, should produce some examples, where the former has sometimes effected a cure without raising a salivation or purging, and the latter without occasioning sweat; which I conceive it will be difficult to find. But to me it seems probable that the peculiar remedy of the *plague*, and proper alexipharmic of its poison, lies yet concealed in the bosom of nature, and that this distemper can only be removed by mechanical methods.

First in-
tention of
cure more
fully con-
sidered.

21. To consider therefore the first intention above-mentioned more at large (*b*), which tends to assist nature in expelling the morbid matter, agreeably to her own method of procedure; it must be observed that in the true *plague*, when nature of herself commits no error, nor is forced out of the way by violent measures, she finishes the cure by an abscess in the emunctories, whence the matter is discharged; but in a *pestilential fever* the cure is performed by an universal perspiration, thro' the whole surface of the body. Hence we may learn that the method of cure must be diversified, agreeable to the different procedure which nature points out in both diseases. For if one was to endeavour to discharge the matter of the true *plague* by sweat, it would be opposing nature, because she attempts to do it by imposthumes: and, on the other hand, to endeavour to expel the matter of a *pestilential fever*, otherwise than by sweat, is to pursue a method directly contrary to the procedure and disposition of nature.

Sweating
sometimes
prejudicial
in the
plague.

22. We are yet unacquainted with a set of certain remedies, capable of promoting the natural expulsion of the morbid matter in the true *plague*, or, in other words, of forwarding the eruption of the imposthumes, unless it be supposed that a strengthening diet and cordials may promote this end: but, in reality, I should greatly apprehend that the inflammation, already too vi-

(b) See above, *Par.* 20.

Sect. 2. olent, might be farther increased thereby. And indeed experience has convinced me that sweats are ineffectual in this case: for tho' I must own that when a profuse sweat has been kept up for three or four hours, and afterwards suddenly stopp'd, a tumor appears, yet I conceive it is not at all owing to the sweat, because there are no signs of a swelling whilst the sweat flows most plentifully, and when this is gone off, the swelling may arise, as it were, by accident, *viz.* in consequence of nature's being eased of a part of her load, whereby she was too much oppressed, by means of the sweat, and of the considerable heating of the body by cordials given to raise the sweat. But the uncertainty and danger of driving out the morbid matter by imposthumes caused by sweat, sufficiently appears from its having proved fatal to near a third part (to speak within compass) of such as underwent this treatment. Whereas, on the contrary, several persons, in whom the tumors appeared in the regular and natural way, even whilst they were about their business, and without the least apparent disorder of any natural, vital, or animal function, recovered in a short time; unless such as happened unfortunately to fall into the hands of some unskilful practitioner, and by his advice, tho' in perfect health, endeavoured to sweat in bed; from which time they began to grow worse, and, at length, the disease increasing, afforded a melancholy proof of the perniciousness of the advice, by their death.

Not certainly terminated by tumors.

23. Moreover, that the termination, or *critical* solution of the *plague* by tumors or imposthuration is both uncertain and dangerous, is manifest from a *bubo*, which sometimes rises kindly at first, and with an abatement of the symptoms, but afterwards suddenly disappears, and instead thereof purple spots succeed, which are certain signs of death: and the cause of its striking in should justly seem to be ascribed to the copious sweats, intended to promote its eruption, which wasted a considerable part of the matter thro' the pores, that should have served to fill and keep it up.

No certain method of curing it.

24. However it be, this at least evidently appears, that providence has graciously pointed out a certain method of expelling the morbid cause in other diseases; but, for this scourge of our transgressions, has given us only a very uncertain one: and perhaps the cause of the

the great destructiveness of this disease may be as well ascrib'd to this source, as to its malignity; for in the *gout* and other diseases, where there is little suspicion of malignity, the striking in of the morbid matter proves as certainly pernicious. Hence it clearly follows, that the physician, who in the cure of other diseases ought to tread closely in nature's steps, must here renounce her guidance: and for want of strictly attending to the truth of this maxim, the *plague* has proved much more destructive, than it would otherwise have been.

25. Since then it appears quite unsafe to follow nature in her method of curing this disease, we are in the next place to consider in what manner the second intention is to be answered, which consists in attempting the cure by a different one: And this I conceive is only to be effected by *bleeding*, or *sweating*. As to the former, I am well aware that it is generally condemned in this disease; but, setting aside vulgar prejudices, I shall here briefly and equitably examine the reasons usually brought against it.

26. And, first, I appeal to the physicians who continued in town during the late plague, whether free and repeated bleeding, before a swelling appeared, was ever observed to prove fatal to any of the infected? But it is not at all surprizing that bleeding in a small quantity, or after the appearance of a swelling, should always be prejudicial: for in the former case the management of the cure is taken out of the hands of nature, who used all her endeavours to raise a tumor, without substituting in its stead any other sufficiently effectual method to expel the morbid matter; and, in the latter, bleeding, by attracting from the circumference to the center, occasions a directly opposite motion to that of nature, which is made from the center to the circumference. And yet nothing is more frequently urged as a capital argument, by those who condemn bleeding in general in this disease, than the mischief of bleeding in this improper manner; as may be collected from *Diemerbroeck*, and other writers of observations. But for my own part I cannot assent to their reasonings, till I know what answer they will make to the question above proposed.

27. It is certain that several writers of great character have judg'd bleeding proper in the plague; the principal of which are *Ludovicus Mercatus*, *Joannes Costæus*,

Nature
not to be
followed
here.

Bleeding
or sweat-
ing most
likely to
relieve.

Bleeding
examined,
and how
to be used.

SeCr. 2. *Nicolaus Massa, Ludovicus Septalius, Trincavellius, Forestus, Mercurialis, Altomarus, Paschalius, Andernachus, Pereda, Zacutus Lusitanus, Fonseca, &c.* But *Leonardus Botallus*, a celebrated physician of the last century, is the only one I know of who places the whole of the cure in as copious bleeding as we demand. I shall transcribe his words, that I may not be judged singular in this practice.

By *Botallus* in a high degree.

28. “ In short (says our author) I conceive there is
 “ no plague wherein bleeding may not prove more be-
 “ neficial than all other remedies, provided it be sea-
 “ sonably used, in due quantity; but I am of opinion
 “ it sometimes does no service, either, because per-
 “ sons have recourse to it too late, or use it too sparing-
 “ ly, or commit some error in both these particulars.”
 And a little farther he subjoins, “ But if our fears be so
 “ great, and we take away so small a quantity of blood,
 “ how is it possible to judge exactly what good or mis-
 “ chief bleeding may do in the plague? For if a disease
 “ (which requires four pounds of blood to be taken a-
 “ way, in order to its cure, and yet but one is taken
 “ away) destroys the patient, it does not therefore
 “ prove destructive because bleeding was used, but be-
 “ cause it was performed in an improper, and, per-
 “ haps, in an unseasonable manner: but ill designing
 “ and indolent men always endeavour to lay the fault
 “ on that, not because it did really do mischief, but
 “ because they vilely desire to give every body an ill
 “ opinion of it. Or, supposing they do not do it out
 “ of wickedness, they cannot be excused from igno-
 “ rance and perverseness, both which are doubtless per-
 “ nicious, but the former much more so.” Then pro-
 ceeding to confirm his reasonings from experience, he
 goes on thus: “ These particulars being attended to,
 “ no sensible person can justly censure bleeding in these
 “ diseases, but must rather highly esteem and commend
 “ it as a divine remedy, and practise it with assurance;
 “ which indeed I have done for these fifteen years past.
 “ For I found no speedier and safer remedy in pestilen-
 “ tial diseases, than copious and seasonable bleedings in
 “ all my patients, which were exceeding numerous,
 “ both at the siege of *Rochel*, and four years ago at
 “ *Mons* in *Hainault*, at *Paris* for these two years past,
 “ and

“and last year at *Cambray* (c).” To these remarks Chap. 2. the author adds some instances of persons cured by this method, which I here omit for brevity sake; but must beg leave to relate a very uncommon case, no way foreign to our present subject, which happened a few years since in *England*.

29. Amongst the other calamities of the civil war that severely afflicted this nation, the plague also raged in several places, and was brought by accident from another place to *Dunstar* castle in *Somersetshire*, where some of the soldiers dying suddenly with an eruption of spots, it likewise seized several others. It happened at that time that a surgeon, who had travelled much in foreign parts, was in the service there, and applied to the governor for leave to assist his fellow soldiers who were afflicted with this dreadful disease in the best manner he was able; which being granted, he took away so large a quantity of blood from every one at the beginning of the disease, and before any swelling was perceived, that they were ready to faint and drop down; for he bled them all standing, and in the open air, and had no vessels to measure the blood, which falling on the ground, the quantity each person lost could not of course be known. The operation being over, he ordered them to lie in their tents; and tho' he gave no kind of remedy after bleeding, yet, of the numbers that were thus treated not a single person died; which is surprising (d). I had this relation from colonel *Francis Windham*,

History of
cures from
bleeding
plentifully,

(c) Bleeding in the beginning of this disease should seem unsafe, as it always, in some measure, slackens the course of the blood to the external parts, and consequently checks perspiration; whence the poison is detained in the body. Besides the terror and apprehension the diseased are generally under immediately hurries the blood to the internal parts, and bleeding having a like effect must therefore needs be detrimental. But if custom, a fulness of blood, or high living should render it necessary, it may be used upon the second or third day, a gentle sudorific having been previously given; because by lessening the quantity of the blood the propulsion of the virulent matter to the glands is facilitated and promoted, and with still greater certainty, provided the course of the blood to the external parts be afterwards assisted by mild sudorifics.

(d) The success that attended this very singular method will in all probability be no encouragement to a prudent practitioner to attempt the same upon a like occasion, nor screen the author from the censures he seems justly liable to on account of his

Sect. 2. *Windham*, a gentleman of great honour and veracity, and at that time governor of the castle.—I shall set down what I have met with worth notice, with respect to this subject, when I come to deliver the few observations I was enabled to make whilst the late *London plague* prevailed.

Sweating preferred to bleeding.

Its inconveniences.

30. But tho' I greatly approve of this method, and have formerly experienced its usefulness in many instances; yet, for several reasons, I prefer the dissipation of the pestilential ferment by sweat to its evacuation by bleeding; because sweating does not weaken the patient so much, nor hazard the reputation of the physician. But this however has its inconveniences too; for (1) in many, and especially in young persons of a hot constitution, a sweat is not easily raised, and the more you endeavour to raise one in such subjects, by heaping on clothes, and giving powerful sudorifics, so much the greater danger there is of causing a *delirium*, or; which is still worse, after having been deluded a while with vain expectations, *pestilential spots* are at length forced out instead of sweat.

31. (2) As the chief malignity of this disease lies in the more spirituous parts of the blood, whence the motion of its grosser particles is generally somewhat more languid than in other inflammations, this finer part acquires a much more violent motion by this additional heat, and at length entirely breaks down all the *fibres of the blood now preternaturally distended*. And from this dissolution of the sanguineous fibres I judge the origin of the *pestilential spots* or eruptions should be derived; be-

violent and improper measures. To bleed in so irregular and extravagant a manner, in a disease that is generally accompanied with an extreme lowness of spirits, and loss of strength, seems a very irrational and unsafe practice; but to treat a number of persons thus, without any regard to the difference of constitution, the different manner of their being affected, and other circumstances, argues great rashness, unskilfulness, and an obstinate attachment to a vague, disorderly and ill-established empiricism. Not to mention that some, would lose more blood than others, before they became faint, which however appears to have been the circumstance that determined him to stop the bleeding; and that the quantity lost must have differed considerably in particulars, as the orifice happened to be smaller or larger, and the blood thicker or thinner: whence again it is manifest he acted rather by caprice and humour than sound and deliberate judgment.

cause,

cause, like the marks left by violent stripes on some Chap. 2.
fleshy part of the body, they are at first of a deep red, 
but soon after turn blue or black.

32. (3) Again, in such as are pretty apt to sweat, if the sweat be stopt too early, *viz.* before the morbid matter be totally expelled, the *buboes*, which began to rise kindly at the decline of the sweat, by thus wasting a part of the matter intended to fill them, either readily strike in, or at least never become true abscesses (as it usually happens in the *small-pox* when the patient has sweat copiously in the beginning) and the matter thereof, being re-admitted into the blood, raises a violent motion therein, by which means the *pestilential* spots, which denote imminent death, are often driven out in the manner above described.

33. But, in order to shew more clearly how to prevent these and other inconveniences, I will faithfully set down all I have done and observed in this disease, beginning from the first appearance of the late *plague*.

34. At the beginning of *May*, in the year 1665, I attended a lady, about one and twenty, of a sanguine constitution, who, besides the burning fever, which began a little earlier, had frequent vomitings, and other febrile symptoms. I began the cure with bleeding, and next day, to guard against a looseness, directed a vomit, which operated pretty well: for, as I have already observed, a looseness usually comes in the declension of a fever, for want of giving a vomit, when it was indicated by the retchings in the beginning (*e*). Visiting her next morning, I found she had a looseness, which perplexed me much, having rarely met with this symptom for some years before. Hence I judg'd that this was no common fever, as the event also shewed, and consequently required to be treated in a different manner from that abovementioned, which I had hitherto constantly used with success. Upon this, a senior physician being joined with me in consultation, bleeding was repeated by our joint advice, which the age, constitution of the patient, and the violent ebullition of the blood seemed to demand; moderate cooling cordials were also given, and glysters injected every other day. At the decline of the disease we directed some of the stronger alexipharmics, because there arose very uncommon and irregular sym-

An extraordinary case.

(e) See *Sect. I. Chap. IV. Par. 9.*

Sect. 2. ptoms, which are generally esteemed signs of considerable malignity; but all these means availed nothing, and the patient died about the fourteenth day.

Thoughts
occasioned
thereby.

A new
method of
cure the
result.

35. The singular nature of this fever set my head at work for some days afterwards; and at length recollecting, (1) that the violent heat continued even after repeated bleeding; (2) that the patient's cheeks were red; (3) that some drops of blood distilled from her nose a little before her death; (4) that her blood when cold resembled that taken away in a pleurisy; (5) that she had a cough, and dull pains in the *vital parts*, or breast; and (6) that it was that season of the year, which includes the end of spring and beginning of summer, and which is less disposed to produce continued fevers; all these dividing, as it were spontaneously, at this time, and either becoming intermittents, or suddenly turning to pleurisies, and the like inflammatory disorders; and lastly (7) that pleurisies were very *epidemic* at the same time: Having, I say, duly considered these particulars, I concluded that this fever, tho' it had not the pathognomonic or distinguishing signs of a *pleurisy* or *peripneumony*, was symptomatic, and occasioned by an inflammation lurking near the *vital parts*, tho' it was unaccompanied with pain in the side, or great difficulty of breathing. In short, I came at length to this conclusion, that I ought to have followed the same method here, that I had frequently used in a pleurisy with good success. And indeed it afterwards fully answered my expectations; for being called some little time after this to a man affected exactly in the same manner, I began and finished the cure by repeated bleeding, after the method already commended in the *pleurisy*. And about the end of *May*, and beginning of *June*, this fever being then very *epidemic*, I recovered numbers by the same means. From this time forwards that dreadful *plague* began to rage with great violence, which afterwards made such devastation, that in the space of seven days it destroyed as many thousand persons in this city only.

36. Whether the fever under consideration deserves to be entitled a *plague*, I dare not positively affirm: but this I know by experience, that all who were then seiz'd with the true *plague*, attended with all its peculiar concomitants, and for some time afterwards, in my neighbourhood, had the same train of symptoms both in the beginning

beginning and thro' the course of the disease. But when I was in danger from the near approach of the *plague* to the house wherein I lived, yielding at length to the solicitations of my friends, I accompanied the vast numbers that quitted the city, and removed my family some miles distant from it. But I returned to town so very soon afterwards, and whilst the *plague* yet raged so violently, that on account of the scarcity of abler physicians I could not avoid being called to assist the infected.

Chap. 2.

And not long after I attended several persons in fevers, which to my great surprize I found were of the same kind and nature as those I had so successfully treated before my departure: for which reason, trusting to my own experience for a better guide, and preferring it to all manner of trivial rules, I scrupled not to direct again.

The pestilential fever cured by copious bleeding.

37. I continued this practice of plentiful bleeding, along with the use of a ptisan and the like cooling diet, in numbers with wonderful success; till at length it failed me in a few instances thro' the obstinacy of the patient's friends, who were so unreasonably prejudiced against it, as not to let me take enough blood away, to the great detriment of the diseased, from whom, as the cure turned chiefly upon bleeding, either a sufficient quantity of blood, or none at all, should have been taken away. Finding my endeavours so warmly opposed, I judged that the discovering another method of curing this disease would be of eminent service for the future.

Mischief of not taking away enough blood.

38. I shall here relate an instance of the mischief I once innocently did, not by bleeding, but because I was hindered from taking away as much blood as I judged requisite.—I was called to a young man, of a sanguine complexion, and robust constitution, who had been seized with a violent fever two days before, attended with vertiginous pains in the head, excessive vomiting, and other symptoms of the like kind; and finding upon enquiry that there was no sign of a swelling, I immediately directed a large quantity of blood to be taken away, the top whereof, when cold, resembled corrupt pleuritic blood; and I also prescribed a ptisan, and cooling juleps and broths. In the afternoon bleeding was repeated in the same quantity, and again, in like manner, the next morning. Calling upon him in the evening I found him much better, nevertheless his friends mightily

Instanced in a particular case.

Sect. 2. mightily opposed farther bleeding, which yet I earnestly contended for, assuring them that by bleeding him only once more he would be out of danger, but that if they continued to oppose it, bleeding had better have been wholly omitted, and the cure undertaken by sweat; adding, in short, that otherwise he would certainly die. The event confirmed my prognostic; for whilst we were disputing about the operation, we lost the opportunity of doing it, for purple spots appeared next day, and the remains of the peccant matter, which ought to have been entirely carried off, (as bleeding so frequently repeated left no room to expect an abscess) corrupting the whole mass of blood, and destroying the texture thereof by its extraordinary subtilty, the patient died in a few hours afterwards.

39. Having therefore frequently met with such perplexing obstacles, I solicitously bent my thoughts to discover, if possible, as effectual, and at the same time a less exceptionable method of curing this disease. And after frequent and long consideration of the matter I pitch'd upon the following, which has since proved always serviceable, and every way compleat.

A safer
method
substituted
in its place

40. First, if a *swelling* has not yet appeared, I bleed moderately, according to the strength and constitution of the patient, after which a sweat is readily and expeditiously raised, which otherwise would not only be difficultly procured in some subjects, but there would also be danger of increasing the inflammation thereby, and thus driving out the purple spots. And the immediately succeeding sweat makes abundant amends for the considerable mischief, which the loss of blood, tho' in a small quantity, would otherwise occasion. After bleeding, which I direct to be done in bed, so soon as all things are in readiness to raise a sweat, I immediately order the patient to be covered over with clothes, and a piece of flannel to be applied to his forehead, which last expedient contributes more towards raising a sweat, than one would easily imagine. Then, if the patient does not vomit, I administer these or the like sudorifics:

A sudorific
bolus.

Take of Venice treacle, half a dram; the electuary of the egg, a scruple; Gascoign's powder, twelve grains: cochineal, eight grains; saffron four grains; and

and the juice of kermes enough to make the whole into a bolus ; to be taken every six hours, drinking after it six spoonfuls of the following julep. Chap. 2.

Take of the distill'd water of carduus benedictus, and compound scordium water, of each three ounces ; treacle water, two ounces ; syrup of cloves, an ounce : mix them together for a julep (f). A sudorific julep.

41. But if there be a vomiting, as it frequently happens in the plague and pestilential fevers, I forbear sudorifics, till, by the weight of the clothes, and throwing part of the sheet over the face now and then to collect the steams, the sweat begins to appear. For it is well worth observing that, as soon as the rays of the morbid matter get to the circumference of the body, the looseness and vomiting, occasioned by their being turned back on the internal parts, and lodging in the stomach and intestines, immediately cease spontaneously ; so that how excessive a vomiting soever had preceded, the medicines afterwards taken are well retained, and succeed to our wish in exciting sweat. Sudorifics when to be given.

42. I remember that being desired by an apothecary to visit his brother, who was dangerously ill of a pestilential fever, and mentioning the giving a sudorific, he said he had already given several strong ones without effect, the patient having thrown them up by vomit. To this I answered that he might prepare one of the most nauseous of those that had been exhibited, and I would easily prevent his vomiting it up. The event verified my promise ; for the patient having first sweated moderately, by the weight of the bed-clothes only, kept down a large bolus of Venice treacle, which causing him to sweat plentifully, he recovered.

43. But to resume my subject : I direct the sweat to be continued for twenty four hours, by giving draughts of sage posset-drink, or mace ale, between times, strictly The sweat to be continued 24 hours.

(f) Theriaca, and the like solid medicines, being offensive to the stomach, are not the most proper sudorifics. I should rather commend an infusion in boiling water of Virginia snake-root, or, in want of this, of some other warm aromatic, with the addition of about a fourth part of aqua theriacalis, and a proper quantity of syrup of lemons to sweeten it. From which, in illnesses of the same kind with the goal fever, which appears the nearest to the pestilence, I have seen very good effects. See Dr Mead on the Plague, p. 163.

caution→

Sect. 2. cautioning against wiping off the sweat, and not allowing the patient's linnen to be changed, however moist or foul it be, till twenty four hours after the sweat is gone off: and this I recommend to be observed with particular care. For if the sweat vanishes in less time, the symptoms immediately return with their former violence, and the health of the patient is greatly endangered, which a longer continuance of the sweat would have quite secured.

Objections
to it an-
swered.

44. And, in reality, I wonder much at *Diemerbroeck* and others, when I consider upon how slight a pretext they are induced to stop the sweat, namely to preserve the strength of the patient. For (1) that the patient is stronger, whilst the sweat flows than before, must have been observed by every one that is but slenderly acquainted with the treatment of this disease. (2) I shall not scruple to publish and defend what practice and experience have taught me, with respect to this matter. Several, who by my advice were kept in a sweat for twenty four hours, have been so far from complaining of greater weakness from thence, that they have declared that in the same proportion the superfluous humour was thus carried off, they perceived their strength increase. And towards the latter part of the time I have often observed, with surprize, that there appeared a more natural, genuine and copious sweat than the former occasioned by the sudorific, and which gave greater relief, as if it were truly *critical*, and terminated the disease. (3) Again, I do not see what inconvenience would attend refreshing the patient with restorative broths and liquids, when the sweat is at the height, and then the objection of want of strength to bear long sweats, vanishes. If, therefore, a faintness be perceived towards the end, I allow the patient to sup a little chicken-broth, the yolk of an egg, or the like, which, together with the cordials and draughts, usually directed to keep up the sweat, sufficiently support the strength. But in a matter of fact so evident, it is needless to use many arguments; for what clearly shews the advantages of this method is, that whilst the patient continues to sweat, he judges himself in a fair way of recovery, and in the opinion of the attendants seems in no farther danger; but as soon as the sweat ceases, and the body begins

begins to dry, he grows worse, a kind of relapse being thereby occasioned. Chap. 2.

45. For twenty four hours after the sweat is gone off, I advise the patient to be cautious of catching cold, to let his linnen dry on his body, take all his liquids warm, and also to continue the use of the sage posset drink. Next morning I give the common purge, made of an infusion of *tamarinds*, the leaves of *sena*, *rhubarb*, with *manna* and *solutive syrup of roses dissolved in the strained liquor* (g). And by this method I recovered several persons, who were seized with a *pestilential fever* the year after the plague, and did not lose a single patient after I began to use it (h). What is to be done after the sweat is gone off.

46. But

(g) See *Señt. I. Chap. IV. Par. 35.*

(h) The intentions of cure in the *plague*, as delivered by *Hoffman*, are, (1) to assist nature in promoting the discharge of the poison received, by the proper outlets, and chiefly by those critical tumors whereby it is generally expelled; and (2) to keep up the strength and spirits, and remove the urgent symptoms. He advises to be sparing in the use of remedies, observing that few are best: and judiciously cautions against heating medicines, or alexipharmics, as they are commonly entitled, which increase the anxiety and heat, promote the dissolution of the juices, and force the *pestilential miasm* from the first passages into the blood, and upon the nervous parts: of this kind are all volatile urinous and oleous spirits, and volatile salts. Mixtures with acids are given with great advantage and safety. Opiates generally prove detrimental, but mild cordials do service. An emetic is very proper to be given, as soon as a sickness at stomach is perceived along with a *cardialgia*; and being immediately followed by a sudorific, has been found to remedy the disease in the beginning. *Nitre* is excellent in full habits, bilious or sanguine constitutions, and where the heat is considerable, the fever violent, and accompanied with thirst, and pain in the head. But where there is a drowsiness, low pulse, coldness of the extremities, and great terror has preceded, nitrous medicines should be refrained. It is always safer to mix *nitre* with *camphire*, whereby the vaporous nature of the *camphire*, and the cooling one of the *nitre* are admirably corrected, and a medicine obtained, that is not only alexipharmic, but effectually checks an inflammation. Laxatives are extremely hurtful in the beginning of the disease, but excellent in the declension. The extremes of heat and cold are equally to be avoided in the course of the cure.

Buboes, if they appear late, should be promoted by drawing applications, cupping glasses, and even blisters. When they appear, their suppuration is to be promoted by digestive cataplasms, prepared of *figs*, the roots of *white lillies*, roasted onions, linseed meal, honey and saffron; or by ripening plaisters applied thereto, such as *diachylon with the gums*, *melilot*, or *mucilage*
plaster

Sect. 2.



Bleeding
how prac-
ticable
with safety

46. But where a swelling has appeared, I have hitherto forbore bleeding, even in such as are not very apt to sweat, apprehending the sudden death of the patient might prevent the intended sweat, from a return of the morbid matter into the emptied vessels. Yet bleeding might perhaps be used safely enough, provided a sweat were raised immediately afterwards, which being continued for the space abovementioned, may disperse and waste the whole mass of the humour by degrees, and with much less danger than would attend the waiting a long time for a kindly suppuration of the imposthume, which is very uncertain in so violent a disease.

47. To conclude; wherever it shall appear to the reader that I am mistaken in point of theory, I ask his

plaster. After suppuration they are to be opened and cleansed, and incarned with balsam of *Arceus*, mixt sometimes with *Basilicon*; allowing time for the *Janies* to be discharged, and not healing them up too hastily. The cure of *carbuncles* is to be attempted by anointing their edges with a digestive liniment, and covering them with cataplasms made of *roasted garlick*, *pigeons dung*, *Venice treacle*, and *oil of turpentine*, and when the eschar, or scab, falls off, anointing the place with *Egyptian ointment*, or the like. But if there be a gangrenous corruption, and it seems to spread, the part affected must be scarified, and a liquor applied thereto, which powerfully checks inflammation and corruption; such as the following, the good effects whereof I have frequently experienced.

Take of rectified spirit of wine, four ounces; camphire, two drams; saffron, and artificial nitre, each a dram: let them infuse together.

Artificial nitre is made of spirit of sal-ammoniac and spirit of nitre, and perfectly dissolves in spirits of wine.

If these means fail, have recourse to the actual cautery, and afterwards, to soften the eschar, anoint it with fresh butter.

By way of prevention, the safest and likeliest means to be used are, (1) to quit the infected place; (2) to avoid whatever weakens the body, checks perspiration, and breeds crudities in the first passages; as excessive bodily labour, too intense application of mind, sitting up late, warm bathing, all copious evacuations, overloading the stomach, &c. (3) if the body be full of foul humours, to correct their vitiated quality, by temperate balsamics mixt with acids, taken in a moderate dose, and not too frequently; (4) to drink generous liquors at proper times in moderation, and especially rhenish wine, which, on account of its gentle acidity, is esteemed excellent against putrefaction; and lastly (5) to guard against violent passions, endeavouring to preserve a constant firmness of mind, and shaking off all timoroulness and dejection.—Thus far the excellent *Hoffman*.

pardon;

pardon; but with respect to practice I declare that I Chap. 2.
 have faithfully set down all particulars, and have no
 where proposed any thing which I have not thoroughly
 experienced. And, in truth, when I come to die, I
 trust I shall have the satisfaction of being inwardly as-
 sured that I have not only endeavoured, with the ut-
 most diligence and integrity, to recover the health of
 all those who have been my patients, of whatever rank
 or condition they were, none of whom have been o-
 therwise treated by me, than I desire to be, if I should
 be seized with the same distempers; but also that I have
 contributed, to the utmost of my abilities, that the cure
 of diseases might, if possible, be prosecuted with greater
 certainty after my decease; being of opinion that any
 accession to this kind of knowledge, though it should
 teach nothing more pompous than the cure of the tooth-
 ach, or corns, is of much greater value than all the
 vain parade of refinements in theory, and a knowledge
 of trifles, which are perhaps of as little service to a phy-
 sician in removing diseases, as skill in musick is to an
 architect in building.

48. In the last place I shall subjoin a short note, lest
 perhaps my opinion of *Nature* be taken in a wrong
 sense, or, at least, not sufficiently understood. In the
 foregoing discourse I have frequently made use of the
 term *Nature*, and ascribed various effects to her, as if I
 would thereby represent some one self-existing being, but
 every where diffused throughout the machine of the
 universe, which, being endowed with reason, governs
 and directs all bodies, such a one as some philosophers
 seem to have conceived the *soul* of the *world* to be.
 But as I neither affect novelty in my sentiments or ex-
 pressions, I have made use of this antient word in these
 pages, if I mistake not, in a qualified sense only, and as
 it is understood and applied by judicious persons. For,
 by *Nature*, I always mean “a certain assemblage of
 “ natural causes, which, tho’ destitute of reason and
 “ contrivance, are directed in the wisest manner, whilst
 “ they perform their operations, and produce their ef-
 “ fects:” Or, in other words, that supreme being, by
 whose power all things are created and preserved, dis-
 poses them all in such manner, by his infinite wisdom,
 that they proceed to their appointed functions with a
 certain regularity and order, performing nothing in
 vain,

Sect. 2. vain, but only what is best and fittest for the whole frame of the universe, and their own peculiar nature; and so are moved like machines, not by any skill of their own, but by that of the artist (i).

S E C T.

(i) This not being the usual medicinal acceptation of the term *Nature*, we shall here subjoin a clearer and fuller definition of it from *Hoffman*. “By *Nature* we mean no more than “the progressive and circular motion of the blood and juices, “depending on the reciprocal contraction and dilatation of “the heart and vessels, and the rest of the solids, wherein the “fluids are contained, by which due motion of the solids and “fluids, there is both a continual secretion made of the useful “or nutrimental parts, which should be retained for the service of the body, and an excretion of the useless and excrementitious parts, which should be discharged through the “proper outlets and strainers.” In another place he expresses his sense of the term more concisely, saying, “*Nature* is a “word we use to signify the structure, mechanism and contrivance of the body, acting with certain powers, according “to certain necessary and mechanical laws, assigned it by its “maker.”

Hippocrates briefly styles it, “The aggregate of all things that concur to perfect health;” and insinuates that it ought to be the foundation of all reasoning in physic.

Whereas the word *nature* is made use of by physicians in the cure of all diseases, I will plainly declare my sentiments of what we understand by that word. That there is something within us, which perceives, thinks, and reasons, is manifest beyond contradiction, and yet the nature of that *something* cannot be fully and perfectly comprehended in this life. Wherefore I shall resign the disquisition of this point to those, who, while they know too little of, and care less for things falling under their senses, take great pleasure in investigating those things, which human reason is incapable of conceiving. However, thus far the soundest philologists agree concerning it, that it is somewhat incorporeal. For how can sluggish matter, which is of itself void of all motion; be the source and first cause of thought, the most excellent of all motions? Wherefore it is sufficiently evident that this first mover within us is a spirit of some kind or other, entirely different and separable from terrestrial matter, and yet most intimately united with our body.—Moreover, to me it seems probable, that this active principle is not of the same sort in all; that the almighty creator has endowed man with one sort, and brutes with another, that the former so far partakes of a divine *nature*, as to be able to exist and think after its separation from the body; but that the latter is of such an inferior order, as to perish with the body. The former was by some of the antients called *Animus*, the latter *Anima**; and they

* Juv. Sat. XV. 148.

mundi
Principio indulsit communis conditor illis

Tactura *Animam*, nobis *Animum* quoque.

Vide etiam *Daviesii* Not. ad *Ciceron. Tusc. Disput. Lib. I. Cap. 10.*

believed,

S E C T. III. C H A P. I.

The epidemic Constitution of the Years 1667, 1668, and part of 1669, at London.

I. **I**N the Year 1667, at the approach of the *vernal* The pro-
equinox, the *small-pox*, which, during the im- gress of
 mediately preceding *pestilential constitution*, ap- the small-
 peared very rarely, or not at all, began to shew itself, pox of this
 and spreading more and more every day, became *epide-* constitu-
mic about *autumn*; after which, its violence being aba- tion.
 ted by degrees, upon the coming on of the *winter*, it
 decreased, but returned again the following *spring*, and
 prevailed, till it was check'd, as before, by the subse-
 quent *winter*. It afterwards increased a third time with
 the approaching *spring*, but did not then rage so fe-
 verely, nor so generally, as it had done the two fore-
 going *summers*: and in *August*, 1669, it totally disap-
 peared, and was succeeded by an *epidemic dysentery*.
 The *small-pox* was more general in town for the first
 two years of this constitution, than I ever remember it

believed, that they were both ingendered in our species: but
 this I take to be an erroneous position. For as their *Anima*
 suffices for the functions of life in brutes, so our *Animus* stands
 not in need of such an assistant. Now this matter, if I am
 not mistaken, stands thus: such is the composition of our fa-
 brick, that when any thing pernicious has got footing within
 the body, the governing mind gives such an impulse to those
 instruments of motion, the animal spirits, as to raise those
 commotions in the blood and humours, which may relieve
 the whole frame from the danger in which it is involved.
 And this is done in so sudden a manner, that it should seem
 to be the effect of instinct, rather than voluntary motion;
 though it be effected in us at the command of the *Animus*, and
 in brutes by the power of the *Anima*. And, indeed, those ve-
 ry motions, which are commonly called *natural* and *vital*, as
 those of the heart, lungs and intestines, which persevere
 through the whole course of life, even when the will cannot
 be concerned in them, as they have their beginning from the
 mind, so they are perpetually under its direction. I could easi-
 ly bring many arguments in confirmation of these sentiments,
 but they would be superfluous in this place. See *Stack's Tran-*
slation of Dr. Mead's Discourse on the Small Pox and Measles,
 p. 15, &c.

Sect. 3. to have been, either before or since; and nevertheless, as it was at that time the genuine and a kindly sort, it destroyed few in comparison of the multitudes that were seized with it.

A good kind.

A new fever arose at the same time,

2. At the same time the *small-pox* first appeared, there arose a new kind of *fever*, not much unlike it, except in the eruption of the pustules, and the symptoms thereon depending; of which I shall treat particularly in the following pages. This *fever*, tho' it affected fewer persons by far than the *small-pox*, did notwithstanding last as long; but in the *winter*, when that abated, this prevailed, and when the *small-pox* returned again in the *spring*, the *fever* went off, so as thus to leave the *small-pox* the predominant epidemic of this constitution; the *fever* notwithstanding never manifestly ceased during this space, till at length it totally disappeared, together with the *small-pox*, in *August* 1669.

And a looseness.

3. These two epidemic diseases were accompanied by a third, especially the last *summer*, wherein this constitution prevailed, *viz.* a *looseness*, the constitution of the air then inclining to the subsequent *dysentery*. But however this be, at least it appeared that this disease so nearly resembled the then reigning *fever*, that it should seem to be only the *fever* turned inwards, and fixed upon the bowels.

4. I shall treat of these three disorders separately, which may justly be called the sole epidemics of this constitution. I begin with the *small-pox*, of which I shall discourse more at large, because the kind that prevailed during this term of years seemed to me to be more particularly *genuine* and *regular* than any other, inasmuch as it exhibited the same phenomena, and was every where attended with the same train of symptoms in all that were seized with it; from which, therefore, as being the most perfect in its kind, a true history of this disease, and the method of cure are to be taken.

Every constitution attended with its peculiar fever and small-pox,

5. For it must be observed that every particular constitution of years has not only a proper and peculiar *fever* belonging thereto, but also a peculiar kind of *small-pox*, which resembles this species for this course of years, but a different one in the following years, tho' they may seem to resemble each other as to certain appearances which are common to all the kinds: so much does nature vary in the production of epidemic diseases.

6. But

6. But to resume the subject: I will first give the history of this kind of the *small-pox*, which I therefore call the *regular* kind, to distinguish it from the *irregular* kinds of the following years; and I will also sub-join the method of cure, which was attended with all desirable success.

C H A P. II.

Of the regular Small-pox of the Years 1667 and 1668, and part of the Year 1669.

I. **T**HE *small-pox* in those years it is *epidemic*, when it is also mild and *regular*, usually begins about the *vernal equinox*, as did that now under consideration; but in those years wherein it is not only *epidemic*, but likewise *irregular*, and of a more dangerous kind, it sometimes appears sooner, *viz.* in the month of *January* (*k*); seizing whole families, and sparing none of what age soever they be, unless such as have already had it, not even suffering those to escape who have been afflicted with the *bastard* kind, which are no way a-kin to this disease (*l*). There are two kinds of this *small-pox*, as well as of that which happens in all years, the *distinct* and *confluent*, which, tho' they differ not essentially, as some phrase it, are yet easily distinguished by some remarkable symptoms peculiar to each kind (*m*).

Chap. 2.

When the *small-pox* begins.

2. (1) The

(*k*) *Boerhaave* observes, that if the *small-pox* arises in a place where it has not appeared for six years past, either towards the end of *January*, or in *February*, the following summer will be attended with a dangerous kind; but it may be easily cured in the beginning. Hence great attention must be had here to the nature of the disease, and the particular treatment it demands, &c. so that in the summer, when it will be of an extremely bad kind, we may be prepared to give such medicines as agree best with this *epidemic* species; tho' it then generally proves mortal. But if the *small-pox* appears in *May*, it will be gentle, and of a favourable and healthful kind. See *Prax. med.* vol. v. p. 299.

(*l*) Scarce one of a thousand who have had the *small-pox* ever catch it a second time, unless it be of a different kind; thus if a person has had the *distinct* kind, he may yet have the *confluent* one; but if he has had this sort, he will never be seized with this disease again. *Ibid.*

(*m*) In my opinion, says *Dr Mead*, the *small-pox* may more accurately,

Sect. 3.
 Leading
 symptoms
 in the di-
 stinct kind.

2. (1) The *distinct* kind begins (1) with a chillness and shivering, immediately followed by (2) extreme heat, (3) violent pain in the head and back, (4) vomiting, (5) and in grown persons a great tendency to sweat; for I never observed such a disposition in children, either before or after the eruption; (6) pain in the parts immediately below the *scrobiculum cordis*, if they be pressed with the hand; (7) sleepiness and *stupor*, especially in children, and sometimes convulsions, which happening after dentition is over, I always suspect the *small-pox* to be just approaching, and the eruptions appearing in a few hours afterwards generally verify the prognostic: so that, for instance, if a child be seized with a convulsive fit over night, as it usually happens, the *small-pox* comes out next morning; and I have frequently observed that the *small-pox* immediately succeeding such fits throws out large eruptions, is of a mild and favourable kind, and seldom proves confluent. And these are almost all the symptoms that accompany this disease in the beginning, and generally precede the eruption of the pustules. But it may be proper to observe here, that where the blood is of a looser texture, and so easily admits of a change, it sometimes happens that the *separation* is performed by degrees, without any considerable sickness, before the expulsion of the matter shews itself by the eruption of the pustules.

Time and
 manner
 of the
 eruption.

3. The *distinct small-pox* come out mostly on the fourth day inclusive from the beginning of the illness, and sometimes a little later, but very seldom sooner; at which time the symptoms are usually much abated, or even go quite off, so that the patient thinks himself pretty well; but grown persons are so inclined to sweat, that it can hardly be prevented however thinly they are covered; and this disposition continues till the

accurately, and agreeably to the nature of the disease, be divided into *simple* and *malignant*. I call *simple*, all that sort in which the eruption is attended with a slight fever of short duration, the pustules fill kindly, make good matter in a few days, and, in fine, fall off in dry scabs.—The *malignant* sort, is that in which the eruption appears with a malignant fever, the pustules hardly come to any tolerable degree of maturity, and either suppurate not at all, or if they do in some measure, as the fever is never off, it is with great trouble that they at length end in little crusts. See Stack's translation of his discourse on the Small-pox, &c. p. 21, 22.

pustules

pustules begin to ripen, and then vanishes spontaneously. Chap. 2.

The eruption proceeds nearly in the following manner:  pale red pustules, as large as the head of a small pin, shew themselves here and there on the face, first, or on the neck and breast, and afterwards on the whole body. During this stage of the disease, the throat is affected with a soreness, that increases as the pustules rise, which growing every day fuller and plumper, inflame the skin and flesh of the neighbouring parts.

4. For about the *eighth* day from the beginning of the disease, which is a time I always take particular notice of here, the spaces between the pustules, that appeared before of a pale white, begin to grow red, and swell in proportion to the number of pustules, with a throbbing pain of those parts, which, continually increasing, occasions the inflammation and swelling above-mentioned; so that in the progress of the disease the eyelids are so filled and distended, as sometimes to make the patient blind, and this tumour looks like a shining inflated bladder drawn over them. The blindness comes on sooner, if a great number of pustules fix on the eyes at the beginning of the eruption; immediately after the face, the hands and fingers swell in proportion to the number of the eruptions. The pustules on the face, that till this day were smooth and red, now grow rough and whitish, which indeed is the first sign of a beginning suppuration, and they likewise gradually discharge a yellow matter, in colour resembling a honey-comb. The inflammation of the hands and face being in the mean time come to its height, causes the spaces between the eruptions to look of a pretty florid colour, not unlike a damask rose: and in reality the more mild and genuine the *small-pox* is, so much more the eruptions and their intermediate spaces approach this colour. As the pustules in the face appear rougher and yellower every day as they ripen, so, on the contrary, those of the hands and other parts appear smoother and not so white.

Beginning and progress of the suppuration.

5. On the *eleventh* day the swelling and inflammation manifestly abate, and the eruptions both of the face and the rest of the body being come to their maturity and just bigness, (which in these years equalled that of a large pea) dry and scale off; and in this kind of *small-pox* they usually quite disappear on the *fourteenth* or *fifteenth* day.

The pustules began to dry on the 11th day.

Sect. 3. *teenth* day. But the eruptions of the hands, being generally more obstinate than those of the other parts, and yet fresh and white, remain a day or two after the rest, and those of the face and body scale off; but these burst, and so vanish. The pustules of the face are succeeded by a scurf, or branny scales, and these sometimes by pits or pock-marks; for when the pustules first fall off, the skin looks smooth, but these scales coming on and falling off alternately, do at length make those pits, that frequently continue visible long after the recovery of the patient in this disease; tho' the *distinct small-pox* very rarely leaves any marks behind it. It was chiefly that kind, that raged the last six months of the year, that pitted, for those which preceded made no marks, unless it proved the *confluent* sort, as we shall hereafter remark. The patient was either quite costive, or had few stools throughout the whole course of the distemper. And let this suffice for the *distinct small-pox*.

The confluent small pox described.

6. (2) That kind of the *small-pox* which we call the *confluent*, is attended with the same symptoms in common as the *distinct*, only they are all more violent; the *fever*, *anxiety*, sickness and vomiting, &c. being more severe, by which signs a skilful physician discovers it to be the *confluent* kind, even before the eruption. Nevertheless the patient is not so ready to sweat in this kind as in the other just described, where the great tendency thereto generally foreshews that the *small-pox*, which will soon appear, will not run together. Moreover a looseness sometimes precedes, and continues a day or two after the eruption; which I have not hitherto met with in the *distinct small-pox*.

The pustules generally come out on the third day.

7. This kind of *small-pox* generally comes out on the *third* day, sometimes earlier, but scarce ever later, whereas the *distinct* appears on the *fourth* day inclusive from the beginning of the distemper, or later, but very rarely before, and the sooner the pustules come out before the fourth day, the more they run together (*n*). However, tho'; to speak in general, the *confluent* kind

(*n*) Most practitioners observe that the slower the small-pox come out, the milder they prove, and the better they ripen. Those appearing on the first day of the illness are esteemed the worst kind, those on the second, milder, those on the third, still more gentle, and on the fourth, the most favourable. *Boerhaave, Prax. med. Vol. v. p. 302.*

scarce

scarce ever appears so late as the fourth day, yet sometimes the eruption may be deferred by some violent symptom to the fourth or fifth day, *e. g.* (1) sometimes a sharp pain in the loins, resembling a fit of the stone; (2) sometimes in the side, like a pleurisy; (3) sometimes in the limbs, as in the rheumatism; or lastly, (4) in the stomach, attended with great sickness and vomiting. In these cases, which however are not common, I have observed the small-pox to come out later than ordinary, as being retarded by the extreme violence of the symptoms above enumerated; which indeed being more severe than usual, when they arise in the very beginning, manifestly indicate that the subsequent small-pox will be of the *confluent* kind, and not void of danger.

8. I proceed next to remark that, tho' the symptoms accompanying this disease in the beginning, in the *distinct* kind, go off, as I said above, immediately after the eruption, it nevertheless happens much otherwise in the *confluent* kind; the fever, and other symptoms, afflicting the patient for several days after the pustules appear.

9. Sometimes this sort comes out like an *erysipelas*, and sometimes like the *measles*; from which they cannot be distinguished, at least as to the outward appearance, unless by a physician well acquainted with these diseases. But whoever carefully attends to the different time of the eruption in these diseases, and other circumstances, which from the history of each will be found to differ extremely, will readily distinguish them. As the distemper increases, the pustules, especially those of the face, do not rise so high as in the *distinct* kind; but running together, appear at first like a red bladder covering the whole face, and making it to swell sooner than in the *distinct* sort, and at last they appear like a thin white pellicule, closely adhering to the face, and rising little higher than the surface of the skin.

10. After the *eighth* day this pellicule grows every day gradually rougher, as appears by the touch, and inclines to a *brown*, and not to a *yellow* colour, as in the *distinct* kind. The roughness and colour of the skin daily increase, till at length the pellicule falls off in large scales: but when the disease has been very severe,

Sometimes they come out like an *erysipelas*, or the *measles*.
Begin to dry after the eighth day.

vere,

Sect. 3. vere, it usually sticks to some parts of the face till after the twentieth day. The more violent the *small-pox* proves, the nearer the eruptions, as they ripen, incline to a dark brown colour, and the longer they are in falling off, if left to themselves; whereas contrariwise the less they run together, the yellower they grow, and the sooner they scale off. When this pellicule, or scab, which covers the face first falls off, it leaves no roughness behind, but it is immediately succeeded by branny scales, of a very corrosive nature, which not only make larger pits than the *distinct* kind generally do, but also much disfigure the face with unseemly scars. And in the *confluent* kind, if the disease has been very violent, the skin of the shoulders and back sometimes scales off, leaving these parts bare.

Whence
the danger
in this dis-
ease.

11. It must be observed that this disease is not to be esteemed dangerous because the body is full of pustules, but from the great number of them in the face; for if that be exceeding full, though there are but few, and those of the *distinct* kind, every where else, yet the patient is equally endangered, as if all the limbs were extremely full (o). But, on the contrary, tho' every part beside be very full, if there be but few in the face, the danger is less. What has been said of the number of the eruptions may also be affirmed of the kind, for the face plainly shews whether it be mild or severe.

The pus-
tules lar-
gest in the
hands and
feet.

12. I have always observed in the *confluent small-pox*, that the eruptions in the hands and feet were larger than those of the other parts, and were gradually less and less the nearer they approached the body. And these are the observations on the eruptions, which I thought proper to premise.

A saliva-
tion and a
looseness at-
tend this
kind.

13. The *confluent small-pox* is attended with two other symptoms, not less considerable than the eruptions, the swelling, or any one of those abovementioned, viz. (1) a *salivation*, or *spitting* in grown persons, and (2) a *looseness* in children. The former is so constant an attendant on this disease in grown persons, that I never met but with one patient in this kind who was free

(o) *Boerhaave* observes that the danger always rises in proportion to the number of pustules that seize the head, and advises bathing the feet before the eruption, in order to derive them more abundantly to the extremities. *Prax. med. Vol. v. p. 316.*

from

from it; but the latter, namely the looseness, does not so certainly affect children. Whether provident nature has therefore substituted these evacuations, because in this small and flat sort the morbid matter cannot be so entirely discharged, as by the larger and higher eruptions in the *distinct* kind, is what I do not pretend to determine; for I only write a history, and do not undertake to solve difficulties. This however I certainly know, that these symptoms not only generally accompany the *confluent small-pox*, but that the evacuation made thereby is as necessary, as either the eruptions, or the swelling of the face and hands.

14. The spitting sometimes begins as soon as the eruptions appear, and sometimes not till a day or two after. The matter is for some time thin, and easily and plentifully expectorated; and, indeed this salivation is not much unlike that raised by *mercury*, only the *saliva* here does not smell so disagreeably. But towards the *eleventh* day, the *saliva*, now become more viscous, is raised with great difficulty; the patient is thirsty, coughs often whilst he drinks, and the liquor flies out at the nostrils; and from this day the salivation generally stops, tho' sometimes, but very rarely, after it has ceas'd entirely for a day or two, it returns again. On the same day the swelling of the face and the spitting begin to abate, but then, instead of them, the hands commonly swell, or at least ought to do so.

When the salivation begins and ends.

15. A looseness does not seize children so soon as a salivation does grown persons; but whenever it begins, unless it be stopped by art, it attends the distemper throughout.

16. In both kinds of the small-pox the fever rages most from the beginning to the time of the eruption, after which it abates, and continues much more moderate till the suppuration begins, which being finished, it goes off entirely.

The fever highest.

17. I have always observed when the disease proved very violent, that the patient had a kind of fit towards evening, at which time (especially) the more dangerous symptoms arose, and raged most severely.

18. Having now given an accurate history of this kind of *small-pox*, including its true and genuine symptoms, rise and progress, as it naturally appears, I proceed

Sect. 2. proceed next to treat of the *irregular symptoms*, which happen in this disease, when it is unskilfully treated.

The 8th day in the *distinct* most dangerous.

19. It is to be noted therefore that the irregular symptoms happening on the *eighth* day, in the *distinct* kind, and on the *eleventh* in the *confluent* (always calculating from the first beginning of the distemper) do most eminently concern the life or death of the patient, and ought therefore to be thoroughly considered; it being apparent that most of those who perish by either kind, die on the abovementioned days in each.

The hot regimen where improper.

20. For first in the *distinct* kind, if the patient sweats pretty freely, (which, as we remarked above, usually happens in grown persons) he conceives all will go well, hoping the venom or malignity of the disease will by this means be expelled thro' the pores of the skin, and therefore think it right to promote the sweat by cordials and a hot regimen; and he pursues this method the more willingly, both because he seemed to have been relieved thereby in the beginning, and likewise because it agrees better with the ill-grounded opinion of the attendants. But those particles being at length expelled by sweat, which should have served to raise the pustules, and swell the face, on the *eighth* day, the face, which ought to swell and be inflamed in the intermediate spaces, contrariwise appears flaccid, and those spaces white, or pale, whilst the pustules look red, and continue elevated even after the death of the patient. And the sweat, which had flowed freely to this day, now ceases suddenly and spontaneously, and cannot be raised again even by the warmest cordials. Mean time the patient is seized with a delirium, great restlessness and sickness, a frequency of making urine in small quantities, and dies in a few hours contrary to expectation. But it must here be observed that if the eruptions be few, the disease happen in the winter, and in a person in years, or if bleeding has been used, this hot regimen, of which we have just treated, does not then so certainly hinder the swelling of the face, and is not so fatal, as where the eruptions are many, or the disease happens in the spring or summer season, and the patient is in the prime of life, and no blood has been taken away.

The mortal symptoms thence occasioned.

The 11th day most dangerous in the *confluent* kind.

21. But in the *confluent* kind there is most danger, and the greatest number die on the *eleventh* day; for as the

the spitting, which had hitherto preserved the patient, commonly ceases spontaneously about this time, unless the swelling of the face keeps up a little longer, and that of the hands, now manifestly beginning, supplies its place, death must needs ensue. For it must be considered, that in this kind of *small pox*, where the eruptions are so small, not only the salivation, but also the swelling of the face and hands, is absolutely requisite in order to a proper discharge of the morbid matter; and if either be wanting, or goes off too soon, the patient must perish immediately. But it happens too frequently in this hot distemper, that the texture of the blood is so much weakened and broke, and so highly inflamed, by an over-hot regimen, as to be no longer able to perform the expulsion of the inflammatory particles in a slow and gradual manner (not to mention now the mischiefs proceeding from forcing sweat improperly) whence either the face and hands do not swell at all, or the swelling vanishes with the salivation; for tho' the swelling of the face ought to abate a little on this day, yet it should not go off entirely till a day or two after, the swelling of the hands in the mean while continuing and increasing, which is one of the most certain signs of recovery, as the contrary is of imminent danger.

22. However this be, the *saliva*, which till this day continued crude and thin, and was easily expectorated, now becomes so viscid and tough, as to endanger suffocation, and when the patient drinks, the liquor falls down the wind-pipe, whence it is thrown up thro' the nostrils with a violent cough. He is seized with a hoarseness, a great *stupor*, and drowsiness, and being wholly oppressed by the violence of the disease, generally sinks under these symptoms on the abovementioned day.

23. There are also other symptoms, which happen in any stage of the distemper, and which are equally common in the *distinct* and *confluent* kinds of small-pox. For instance, a *delirium* sometimes seizes the patient, occasioned by the excessive ebullition of the blood, and the heat is so intolerable, that he endeavours in a furious manner to get loose from those that confine him in bed. Sometimes the same cause produces a very different or contrary effect as it seems, namely a kind of *coma*, so

that

Sect. 3. that the patient dozes almost always, unless he be constantly rouzed.

Whence a *coma*; and purple spots. 24. Sometimes also in this disease, as in the *plague*, the texture of the blood being loosened by the violence of the inflammation, purple spots appear in the spaces between the eruptions, which are generally fore-runners of death: This happens oftener when the constitution of the air chiefly favours this epidemic disease. Sometimes small black spots, scarce so large as pins heads, and depressed in the middle, appear on the top of the eruptions in different places; which, as they proceed from too much heat, do at length by the use of a cooler regimen acquire a brown, and afterwards by degrees a yellow colour, which naturally belongs to the genuine and regular small-pox. This is apparent to those who are acquainted with this disease, in which all the symptoms become proportionably milder, the nearer the eruptions, when come to suppuration, resemble this colour, and *vice versa*.

Whence bloody urine.

25. Again, the blood of young persons, and such as are in the vigour of life, is sometimes so much inflamed in this disease, especially if too free an use of wine or any other spirituous liquor has preceded, as to break thro' the arteries into the bladder, and so occasion *bloody urine* (*p*); which is one of the most dangerous symptoms that appear throughout the course of this distemper.

A spitting of blood owing to the same cause.

26. Moreover, sometimes, but not so frequently, a spitting of *blood* proceeds from the same cause. But either of these hemorrhages usually happen in the beginning, before the eruptions appear; or if they shew themselves in some places, yet in most others they lie concealed under the skin, in great abundance, and are

(*p*) A redness of the urine has been sometimes taken for bloody urine, it may therefore be proper to observe, that if this colour depends on a mixture of blood therewith, it will, after the urine has stood a while to settle, congeal and fall to the bottom, leaving the urine clear at top.

This dangerous symptom should seem to proceed from the acrimony of the juices, and a dissolution of the texture of the blood, the mixture and cohesion of its parts being destroyed by the considerable degree of putrefaction which accompanies this disease. And from the same cause may proceed the bloody stools, often happening here (but not once mentioned by our author) and every other hemorrhage.

of that kind which would prove most *confluent*, unless Chap. 2.
one of the abovementioned symptoms should termi-
nate the disease by destroying the patient.

27. Sometimes also, especially in young persons, there happens a total suppression of urine, either at the height, or declension of the *distinct* kind. When a stoppage of urine happens.

28. There are likewise other symptoms that sometimes arise from a contrary cause to those above enumerated; namely when the patient has been injured either (1) by too intense cold, (2) improper bleeding in a very large quantity, or (3) over-purging; whence the eruptions sometimes suddenly sink, and a looseness comes on, which, in grown persons, as we have before observed, proves highly dangerous, the *variolous* matter being thereby struck in, so that nature is utterly unable to expel it in a proper manner by the pores. Besides by this means the swelling of the face and hands is check'd, which is to be esteemed as favourable a symptom as even the eruption of the pustules, unless they be very few indeed. The symptoms from cold, copious bleeding, and over-purging.

29. But the symptoms occasioned by taking cold are very rare in comparison of those that arise from the hot regimen; for as this disease may with great reason be reckoned amongst those of the most inflammatory kind, a mistake on this hand happens much more frequently than on the other. The former rare.

30. What the essence of this disease is, I ingenuously own I know not, by reason of a natural defect in the understanding common to me and all mankind; but upon a thorough consideration of the abovementioned symptoms, it should seem to be an inflammation of the blood and juices (q), (yet of a different kind from other inflammations) in removing which, nature, during the first two or three days, endeavours to concoct and digest the inflamed particles, which, being afterwards thrown out on the surface of the body, the further ripens, and, at length, totally expels in the form. The disease an inflammation of the blood and juices.

(q) The virulent matter, occasioning this disease, seems to be of an acrimonious and inflammatory nature, whence the pain, heat, redness, swelling, erosion and ulceration; and also to partake of a caustic and putrefactive nature, whence, by its subtle intestine motion, it destroys the texture and union of the parts, and corrupts them; and this more properly regards the malignity of the distemper, and is particularly manifest in the malignant, or bad *small-pox*.

Sect. 3.

Has two
stages.

of small abscesses. Hence, in order to lay some foundation for the method of cure, regard must be had to two different stages of this disease; the first whereof is that of the *separation*, and the second that of the *expulsion*.

(1) The
separation.

31. (1) The *separation* is mostly accompanied with a febrile ebullition, and is ordinarily finished in *three* or *four* days, during which nature is employed in collecting the inflamed particles together that vitiate the blood, and expelling them to the fleshy parts, which being over, the former calm returns; the disturbance raised in the blood, whilst this was doing, being now quieted. The separation being thus finished by means of

(2) The
expulsion.

the ebullition of the blood, (2) the *expulsion* succeeds next, which is performed, during the rest of the time the disease continues, by means of those small abscesses in the flesh. For as they differ not in their nature from other abscesses, so, like those, they usually run thro' the states of crudity, suppuration, and exsiccation, which, if they finish right, there is no danger, as the cure chiefly depends thereon; but if not, very sad symptoms will succeed. And indeed the expulsion requires so much longer time than the separation, because *this* is performed in a thin fluid body, and, as I may say, in the bosom of nature, whereas *that* is performed in a thick, dense substance, and at a greater distance from the fountain of life.

The indi-
cations.

32. These particulars being premised, the indications that arise are (*r*); (1) that such an equable ebullition of the blood be maintained, that it may neither

(*r*) The indications of cure here, as delivered by *Hoffman*, are to assist nature with proper helps in correcting, expelling, and suppurating the *variolous* matter. And to this end (1) the acrimonious, vitiated, caustic matter must be corrected, and, according to the manner of speaking used by the ancients, *corrected*, and the violent motions of the vascular and nervous system in the beginning of the illness, moderated; (2) the eruption must be promoted, by raising or depressing the fever, as it shall be found necessary, that so all the matter may be propell'd to the external parts; but the *secondary* fever coming on at the suppuration must be check'd, and the violent symptoms remedied; (3) in the declension, when the pustules dry and scale off, purging must be used to cleanse the blood and juices from the foulness they have contracted in the course of the illness, by which means the disorders arising from the remains of the distemper are seasonably prevented.

finish

finish the separation too hastily, by rising too high, nor Chap. 2.
retard, or render it imperfect, by sinking too low; 
(2) that the abscesses, or eruptions be very carefully kept up, so that, running thro' their proper states, they may at length entirely discharge the matter they contain, and vanish.

33. (1) To treat therefore briefly of the first indication: great caution is required, especially during the separation, that the ebullition may not rise too high, either by heaping too many clothes on the patient, overheating the air, by keeping too large a fire in the room, or using heating medicines and cardiacs. And these must be particularly guarded against, if either the patient be in the prime of life, or his blood be too much enriched by spirituous liquors, or it be the spring season, or, at least, only the beginning of summer. Otherwise the separation, which should be carried on slowly and gradually, for the better promoting an universal despumation, will by this means be hurried on too fast, and thus either there will not be a sufficient number of particles collected, or perhaps some particles may be brought to secretion, which nature would not otherwise have secreted, were it not that, being forced beyond her just limits, she is thus made to hurt herself. For when such particles are separated as are unfit for separation, the motion of *others* that have a tendency thereto, is hindered by their mixing with these, and thus they are rendered less fit for expulsion.

Method of answering the first indication.

34. To me, indeed, it seems agreeable to reason, that the more time nature employs in carrying on and finishing the separation, provided the ebullition does not quite flag, so much the more certainly and universally it is completed, upon which the success of the subsequent cure must needs principally depend, as a different event must manifestly ensue from the contrary method. For as over-early fruit does not come to perfection, so no good arises from this hot regimen, but on the contrary it frequently happens that the patient either falls immediately into a *delirium*, or, which is a worse symptom, profuse sweats arise, whereby such particles are separated as are unfit for separation, and not agreeable to the nature of *pus*, (which however is the genuine product of this separation) or else, the eruptions, being driven out

The separation is not to be too much promoted.

Ill effects of this procedure.

Sect. 3. too much by cardiacs and a hot regimen, run all together (a shocking sight) and forebode death.

35. These and the like symptoms are ordinarily occasioned by such errors, whereas I never observed any harm done by the other method: for nature, being left to herself, finishes her work in her own time, separating and expelling the *variolous* matter, in the proper way and manner, so as not to stand in need of our help, at least not in the young and robust. Nor in reality have I ever observed or heard that any person perished because the *small-pox* did not come out at first, but too many have died in whom they came out well and hopefully in the beginning, but afterwards struck in and sunk before they came to maturity (s).

36. But

(s) Is not this observation contradicted in numerous instances when the small-pox prevails? Are not physicians frequently obliged to have recourse to warm alexipharmics to drive out the eruptions, whilst they lie very thick underneath the skin, without proceeding farther, tho' the usual time for their coming out be past? And this often happens, either because the fever is too languid, in which case moderately heating and generous medicines are apparently required; or because the patient labours under a paucity or lowness of spirits, occasioned by terrifying apprehensions that the disease may prove mortal, whence a stop is consequently put to the eruptions, and life, in reality, endangered. For it is manifest that the passions of the mind occasion great and sudden alterations in the circulation of the blood and juices, and the functions of the parts thereon depending. Thus anxiety, fear, or apprehension is found to relax the solid parts, and check the circulation; whence we are directed to the remedies proper to be used in this case, which should be such as may restore the tone of the solids, and quicken the motion of the fluids, in a manner suited to the particular exigency, of which kind are mild cordials; and besides these, we ought, upon all occasions, to endeavour to encourage the patient, and make him chearful and easy, or divert his attention from the danger; for as long as the mind gives way to inquietude and concern, all remedies are ineffectual.

When the eruption does not come forward as it ought, but the patient complains of restlessness, excessive heat, and other bad symptoms, the immoderate hurry must be quieted, especially in those of a hot constitution; and because the matter or venom of the pustules is then more acrimonious and malignant, it must be corrected and cooled by cooling powders with cinnabar, or cooling infusions (where the patient has an aversion to powders, which children and very young persons generally have) to which a fourth or fifth part of dulcified spirit of nitre may conveniently be added, and likewise by emulsions and draughts of the same kind, a proper quantity

36. But tho' it is improper and dangerous, by car- Chap. 2.
 diacs or a hot regimen, to raise the ebullition, once 
 begun, too high; so contrariwise the danger is equal in Danger of
 depressing it by bleeding, vomits, purgatives, glysters, diminish-
 and the like evacuations, the due secretion of the sepa- ing the
 rable parts being in great measure prevented hereby. ebullition
 For tho' the common and trite objection to bleeding too much.
 and other evacuations be of no force, namely that *it is*
improper to move the humours from the circumference to the
center, as nature seems to affect the contrary in this disease,
 because a quite different effect has often been observed
 to follow upon the use of these means, *viz.* a sudden
 eruption of the small-pox; nevertheless there are other
 forcible reasons in readiness to dissuade from this prac-
 tice, if by any means it can be refrained. For, to treat
 briefly of the principal of them; (1) by these evacua-
 tions, not only the ebullition is too much diminished,
 by means of which the parts intended for despumation
 should have been carefully separated; but (2) the mat-
 ter also is wasted, which should continually serve as
 fuel to the secretion once begun, whence it frequently
 happens that the eruptions, which came out kindly in
 the beginning, and perhaps so much the better from the
 previous use of the abovementioned evacuations, sink
 soon after, as if they were suddenly struck in; occasi-
 oned chiefly by a want of a fresh supply of matter to
 succeed the former, and finish the separation. But not- Bleeding
 withstanding what has been advanced, if there be the and vomit-
 least suspicion that the small-pox, which are coming ing excel-
 out, will be of the *confluent* kind, it will be highly ser- lent in the
 viceable not only to bleed immediately, but likewise to confluent
small pox.

ty of some acidulated liquor for common drink, and a cool
 regimen. But sometimes the small-pox comes out badly in
 cold constitutions, or sinks, and strikes in, and so occasions great
 restlessness and sickness; in which case nature is to be stimu-
 lated and assisted by gentle alexipharmics, and some proper
 distilled waters. A decoction of figs and diaphoretic or pec-
 toral herbs is excellent in this case, especially if the patient has
 a cough at the same time, and it be drank plentifully and
 warm; and if the symptoms be violent, it is proper to apply
 blisters to the arms and feet. But when the disease is milder,
 and yet the pustules do not come out very kindly, there is of-
 ten occasion for nothing more than gentle diaphoretic draughts
 made of suitable distilled waters, and cooling powders, and
 made agreeably acid by an addition of some acid syrup.
Heister, Compend. Med. p. 69.

Sect. 3. give a vomit; for reasons we shall, in another place, set down at large.

The second indication how to be answered.

37. (2) To proceed now to the second indication, which respects the time of expulsion; during which the separated matter is expelled by means of small abscesses, or pustules. Here we are to endeavour to keep them up in a proper manner, so as they may duly and regularly reach the period assigned them.

Danger of over-heating the patient towards the beginning of the expulsion.

38. As I conceive therefore it has been clearly shewn that it is highly dangerous to keep the patient too hot during the time of separation, when there is a fever, and the eruptions scarce yet appear; so likewise an error of this kind is equally dangerous at any time of the disease, and especially towards the beginning of the expulsion, whilst the pustules are yet in a state of crudity. For tho' the blood be considerably freed from the intestine tumult, by the separation being finished, and the translation of the matter to the fleshy parts, yet being still weak, and having scarcely acquired a new state and texture, it is easily affected by the immoderate heat arising from all parts, and so, upon the least occasion given, inflames with a tendency to a new ebullition; which does not, like the former, endeavour to promote separation, for we suppose that business over, but, instead thereof, not only produces the dangerous symptoms before mentioned, but disturbs the eruption begun, and proves detrimental, by putting the contents of the pustules into violent motion. And by this means either the particles already secreted, and deposited in the habit, being hurried away by the violent and rapid motion of the blood, are absorb'd thereby; or the fleshy parts, being heated beyond the degree requisite for suppuration, do not finish it so completely; or lastly, perhaps, upon the coming of this new disorder, the texture of the blood, and the tone of the fleshy parts are so broken and weakened, that they cannot overcome the matter expelled, and digest it in the usual way of abscesses (t):

39. But

(t) All heating medicines to drive out the *small pox* deserve to be condemned in general; for they put the blood and juices into violent motion, increase the heat, anxiety, convulsions, and *delirium* where these symptoms occur, and also render the *various* matter more acrimonious and subtle, whence a gentle

39. But mean while we must not be so intent upon Chap. 2. preventing an immoderate ebullition of the blood, as to check the eruption of the pustules, by exposing the patient to the injuries of the cold. The fittest degree of heat to promote their expulsion is the natural one, and such as is suitable to the temper of the fleshy parts; and whatever exceeds or falls short of it, is dangerous on either hand.

The eruption not to be check'd

40. From what has been delivered therefore it seems manifest that this disease, and the proper method of curing it, rest on a slippery foundation; and for this reason I dare venture to assert that the reputation of the physician, who is frequently employed in it, will be exposed to censure; for not only the vulgar are apt to attribute the cause of the patient's death to the over officiousness of the physician, but even the professors of the same art gladly take occasion from thence to defame their brother, and haranguing before partial judges, easily get him condemned, with this view, that they may gain greater esteem themselves, and build their rise upon the ruin of others; which is a practice utterly unbecoming men of letters, and even the meanest artizans, and who have any regard for probity (u). Again, we may

The method of curing this disease precarious.

small pox is easily converted into a bad and malignant kind: and so far are they from procuring an equal and constant eruption, that they rather expel the matter, not duly prepared, too soon, so that it does not keep its future stage, but in a short time after strikes in, with great danger to the patient. Besides, they dissolve the blood too much, waste the mild nutritious juice, and at the same time exhaust the strength by the copious sweats they occasion. See the note (s) p. 114.

(u) Doubtless our excellent author had experienced this ungenerous treatment in his own particular; and in effect we find him afterwards pathetically complaining of it: which affords a melancholy proof that neither great abilities, unquestionable candour and integrity, nor the most indefatigable endeavours to serve mankind can secure a person, who leaves the common road, from the unjust censures of the narrow spirited, disingenuous, and prejudiced part of the professors of the same science. Whoever make a new discovery, which tends to overthrow a set of prevailing notions and rules, (venerated probably more for their antiquity than justness) and establish a truly rational theory, and more effectual methods of practice, must expect to meet with great opposition from the ignorant, envious and prepossessed, and be treated as rash innovators, designing and interested persons, however conspicuous they may be for learning, prudence, and extensive humanity.

Sect. 3.  may from hence observe, which is less surprizing, that nurses, who are generally too busy and officious, often succeed ill in treating the disease: for it is a difficult matter, and exceeds the understanding and abilities of ignorant women, to ascertain the degree of heat requisite in this case, especially, since in order thereto the season of the year, the age of the patient, his manner of living, and other like circumstances must be considered together, which in reality demands a prudent and skilful physician.

Cardiacs
when and
how to be
given.

41. If the pustules happen to strike in, or the swelling of the face and hands sink, either from unseasonable bleeding, or taking cold, recourse must be had to cardiacs (*w*), but we must be careful of giving them too freely. For tho' blood has been taken away, it may notwithstanding happen, that apprehending the loss of strength from thence, and therefore giving either strong cordials, or using them frequently to prevent it, a new ebullition will be suddenly raised, the blood being yet weak, and easily affected by a hot *stimulus*; whence frequent ebullitions are excited therein, to which the death of the patient is rather to be ascribed, than to the preceding bleeding. And let this suffice with respect to such particulars as may answer the primary intentions.

The treat-
ment of
this disease
particula-
rized.

42. Now, to come closer to practice: as soon as the signs of the disease appear, I confine the patient within doors, forbid the use of wine and flesh-meats, and allow *small-beer* moderately warm with a toast for common drink, and sometimes suffer it to be drank at pleasure (*x*). For his food I direct water-gruel, barley-gruel, roast-apples, and other kinds of aliment, that are neither remarkably heating, nor cooling, nor hard to digest. Nor do I much disapprove of the common country fare, of

Such was the usage our illustrious friar *Bacon*, and the sagacious *Harvey* met with from a number of their cotemporaries: and who can hope to pass uncensured, when men of their eminent knowledge could not escape?

(*w*) These symptoms may also be occasioned by a decay of strength, sitting up too long, terror, &c. and, unless immediately remedied by some proper cordial, life is endangered. Blisters are eminently serviceable here. See the note (*s*) p. 114.

(*x*) It should be observed, that if there be a looseness, or a disposition thereto, small beer must be refrained; all malt liquors being peculiarly apt to encourage this discharge. In this case rice-water, harts horn drink, and the like, are much more proper liquors.

milk with roast-apples bruised in it, provided it be given warm, and sparingly. I immediately forbid a hotter regimen, and the use of all kinds of cardiacs, whereby some injudiciously endeavour to force out the small-pox before the *fourth* day, which is the natural and proper time for the eruption; for I am very sure that the sooner the pustules come out, the more general the separation of the variolous matter will be, the better they will ripen, and the less danger there will be of their striking in: whereas if they be driven out too soon, the matter, being yet crude and indigested, is precipitated, and deceives our expectation, like over-early fruit (y).

Chap. 2.

 Mischief
 of forcing
 out the
 pustules
 before the
fourth day.

43. Again, by this over-hasty procedure, there is great danger (especially in hot and florid constitutions, whose active principles more than sufficiently supply the place of cardiacs) lest nature, being too much irritated and hurried, should overspread the body with the *small-pox*, and so render that the *confluent* kind, which, without this precipitancy, would have been a favourable *distinct* one. The small-pox must not therefore be expelled upon the first suspicion of this disease, because the patient is generally very sick and restless before the

(y) With regard to diet, says Dr Mead, it ought to be very slender, moistening, and cooling; such as *oatmeal*, or *barley-gruel*, &c. Nevertheless, as the food is to be adapted to the several stages of the disease, the best regimen in the beginning is that, which will keep the body open, and promote urine. These advantages are obtained by boiling preserved fruits with their food, especially *figs*, *dama-scene plums*, and *tamarinds*; and giving them subacid liquors for drink; as *small-beer acidulated with orange or lemon juice*; *whcy turned with apples boiled in the milk, or with wine*; *emulsions made with barley-water and almonds*; *Moselle or Rhenish wine plentifully diluted with water*; or any other things of this kind.—When this sort of diet did not keep the body open, the *Arabian* physicians added *manna* to it; but this they did sparingly, and with caution. For it is quite necessary, says *Avicen*, that the body be open in the beginning*; which is one of the most important advices that can be given in this disease, if to it be added, that urine must be made plentifully. For there is a wonderful correspondence between the skin and the kidneys; whereby whatever fluid is wont to be secreted by the cuticular glands, may with great ease be evacuated by the urinary passages. Wherefore, it is very proper to draw off as much of the matter of the disease, as can be done, by these passages, in order to prevent the overloading of the internal parts. *Stack's Translation of the Doctor's Discourse on the Small-pox*, p. 35.

* De variolis & morbillis.

Sect. 3. eruption; for not a single instance can be produced of its having proved mortal, however ill the patient has been, either because the pustules did not come out directly, or because nature was deficient in expelling them sooner or later, unless where she was prevented by an hot regimen, and an over-early use of cardiacs (z). For I have more than once observed in the young and sanguine, that the use of a hot regimen, and cardiacs given with design to expel the pustules before the due time, have so little promoted their eruption, that, on the contrary, they have proved a check thereto. For the blood being heated by this means, and put into a more violent motion than is requisite for performing the separation in a proper manner, only some certain signs of the disease discover themselves; the eruptions in the mean time lying concealed under the skin, and not rising higher, whatever cordials be administered to promote their elevation; till, at length, the blood being reduc'd to its moderate and proper temperature, by allowing the use of small beer, and taking away part of the clothes whereby the patient was considerably heated, I have commodiously made way for the eruption of the pustules, and by this means removed the danger.

Ill effect of confining the patient in bed before the fourth day. 44. And, in my opinion, they have as little reason on their side, who so obstinately confine the patient in bed, provided he keeps his room, as those who give cordials in so hasty and improper a manner: for *bloody urine, purple spots*, and other mortal symptoms above specified, happen only from a too early confinement in bed, especially in young persons (a). But on the *fourth day*

(z) See above, *Par.* 35.

(a) Let this be a general rule, to keep the patient in bed during the first days of the distemper, taking care to defend him from the inclemency of the winter by proper means, and to moderate the excessive heat in summer by cool air. To chill, and, as it were, to freeze up the sick in winter, is not the part of a prudent physician, but that of a fool-hardy empiric, trying experiments at the expence of unhappy people's lives.—Wherefore a mean is to be observed herein, by managing the patient in such a manner, as neither to stifle him with heat of cloaths, nor check the eruption and perspiration by cold. However, great care ought to be taken, in general, to supply him with pure and cool air, which he may take in plentifully: because a hot air causes difficulty of breathing, checks the secretion of urine, and increases the number of pustules

day I order the patient to be put to bed, at which time, Chap. 2. if the eruption does not come kindly forward, it is proper to give some gentle cardiac, at least once, to drive out the pustules. Amongst the medicines that produce this effect, those called paregorics, or opiates, such as *liquid laudanum, diascordium, &c.* given in a small quantity, mixed with some proper *cordial water*, are the best for this purpose; for as they abate the ebullition of the blood, nature expels the morbid matter with greater ease and convenience (*b*). But I would not advise the giving a cardiac before this juncture, even tho' there be a looseness, and that should seem to indicate such a remedy. For tho', as we observed above, a looseness may sometimes precede the eruption of the *confluent small-pox*, occasioned by inflammatory *effluvia*, or humours discharged into the intestines from the mass of blood, which during the first days of the illness is greatly heated, and in violent motion; yet nature will as certainly expel these *effluvia* of the variolous matter by the skin, whereupon the looseness goes off spontaneously, as she commonly does the same *effluvia*, which, being turned inward upon the stomach, occasion a vomiting in the beginning of the disease.

Opiates
best to
promote
the erup-
tion.

Not to be
given be-
fore the
fourth day.

45. But it is to be observed, that if I am called to a strong young man, who, besides, has given occasion to the distemper by too free an use of wine, or any other spirituous liquor, I esteem it not enough to check the ebullition of the blood, for him to keep from bed, and refrain cordials, unless bleeding in the arm be also used (*c*): but if this be opposed, on account of the prevailing

Bleeding
when re-
quisite.

pustules on the internal organs of the body; the consequences whereof we may justly apprehend to be inflammations, and, towards the end of the disease, gangrenes. *Stack's Translation of the Doctor's Discourse on the Small-pox, p. 33.*

(*b*) Opiates here are reckoned amongst the cardiacs, as they promote the eruption, which, however, they should seem to do only inasmuch as they diminish the tension of the solids, and so check the circulation, by which means the separation and expulsion are considerably promoted, especially where the fever is high, and the blood and juices consequently move with great velocity.

(*c*) A full and strong pulse, a redness of the face, a pain and heaviness in the head and loins, a swelling of the veins, youthfulness, a sprightly disposition, a custom of bleeding, and the suppression of a critical evacuation, indicate bleeding the first or

second

Sect. 3. vailing prejudice of the vulgar, at least I judge it incumbent on me to propose it. For by the inflammation of the blood, caused by the heat of the spirituous

second day. Thus the anxiety, and oppression of the breast soon vanish, the spots appear copiously in the skin, nor is there reason to apprehend such violent symptoms after the eruption. For an over-fullness of blood has often been observed to hinder the due propulsion of the *variolous* matter to the external parts, and occasion the pustules to appear only distinct; whilst the matter left in the habit produces various spasmodic, convulsive symptoms, a *delirium*, a suffocation, and even an apoplexy, towards the declension of the disease. But where the pulse is hard, low and small, the vessels less turgid, the strength languid, the constitution phlegmatic, the patient a child, or a youth, the body corpulent, a vomiting, cough and looseness happen in the beginning of the illness, the patient subject to faint upon bleeding, a vein must not be opened, lest by taking away too much blood, the matter should be detained in the body, and the eruption prolonged for several days, not without danger. *Hoff. Med. ration. system. tom. IV. p. 154, 155.*

It is agreed on all hands, that this remedy is not very suitable to the tenderest age. But yet, as the blood of infants is generally too thick, and too much in quantity for the bulk of the body; and as they are often seized with convulsions, upon the appearance of the disease, some evacuation ought to be made; which may be safely effected by leaches applied to the temples, or behind the ears. Likewise, if blood cannot be drawn from the arm, in most young subjects either of the jugulars may be opened without inconvenience.—That regard is to be had to the patient's strength, of what age soever, is manifest to all. But the weakness is seldom so great, as not to bear some loss of blood, unless it be after some extraordinary evacuations. Nor is the pulse to be over-much depended on in this case; for it often happens, that the thickness of the blood prevents the secretion of the usual quantity of animal spirits in the brain, and that the vital fluid is not propelled from the heart with due force; in which case, by removing the oppression, the patient's strength is observed even to increase with the bleeding.—But in what proportion blood is to be taken away, will be best determined by the vehemence of the disease. Many of our physicians imagine they have done their duty when they have ordered one bleeding, and are vastly cautious of opening a vein at all, after the first appearance of the pustules, for fear of checking the eruption. But this is certainly an ill-timed caution; for in youths and adults it is often necessary to draw blood two or three times, only with an intermission of two or three days between each time. And indeed bleeding is so far from being an obstacle to the eruption of the pustules, if the patient be not too weak, that it forwards it considerably; and for the very same reason, that, in large abscesses, when there is too great a fullness, and the heat too intense, the suppuration is brought on quicker and better by taking away some blood. *Stack's Translation of the Doctor's Discourse on the Small-pox, p. 36, &c.*

liquors,

liquors, together with the intense heat that naturally accompanies this disease, the motion thereof is rendered so violent, that it frequently bursts thro' the vessels into the bladder, or occasions purple spots, and other like symptoms, which perplex the physician in the course of the distemper, and destroy the patient.— And let these rules suffice with respect to what is to be done before the eruption.

46. As soon as the pustules appear, I examine carefully whether they are of the *distinct* or *confluent* kind; as they differ extremely from each other, tho' both have some symptoms in common. If therefore from the largeness, paucity, and slow eruption of the pustules, the ceasing of the sickness, and other violent symptoms, which in the *confluent* species continue after the eruption, they appear to be of the *distinct* kind, I order the patient to be refreshed with small-beer, water-gruel, barley-water, &c. in the manner above directed. And if it be summer, the weather exceeding hot, and the pustules few, I see no reason why the patient should be kept stifled in bed; but rather that he may rise and sit up a few hours every day, provided the injuries arising from the extremes of heat or cold be prevented, both with respect to the place wherein he lies, and his manner of clothing. For when the patient sits up between whiles, the distemper finishes its course with greater ease, and also more expeditiously, than if he had been constantly kept in bed, which not only prolongs the illness, but likewise promotes the febrile heat, and occasions a painful inflammation upon the rising of the pustules. But if the coldness of the season, or a numerous eruption, makes it necessary for the patient to keep his bed constantly, I take care to prevent his lying warmer, or with more cloaths on him, than he used to do whilst in health; and that only a moderate fire be made in the room morning and night, unless it be the winter season. Neither do I require he should lie always in the same place in bed, lest a sweat be raised, which I absolutely maintain (supported both by the reasons above alledged, and by experience) cannot be promoted without considerable danger.

What is to be done in the *distinct* kind.

Advantages of keeping from bed.

Promoting sweat bad.

47. In the declension of the illness, when the free exhalation of the *effluvia* proceeding from the *matter*, now changed into *pus*, is prevented by the hardness and

Warm Canary to be given in the declension.

Sect. 3. and dryness of the pustules, it will be proper to give five or six spoonfuls of *canary*, warm, or some other mild cardiac, lest these putrid *effluvia* return again into the blood (*d*). And in reality at this time, and not before, cardiacs and a warmer and more cordial diet may be allowed; as sugar-sops, oatmeal caudle, &c. Nor will any thing further be needful in the kindly *distinct* sort, provided the patient will conform to this temperate method and diet; unless perhaps restlessness, watchings, or other symptoms, threatening a *delirium*, should occasionally require an opiate.

48. This is the true and genuine method of treating this kind of small-pox, and will prevail after my decease, notwithstanding the ill-grounded prejudices of those that oppose it. And tho' I do not deny that abundance have recovered by a contrary treatment, yet it must also be acknowledged (and is deservedly to be lamented, if it be considered that this *distinct* kind is not at all dangerous in its own nature) that numbers have died, and that many more would have perished, unless they had been saved by the cold season in which the disease happens, or by bleeding not long before, which is otherwise unnecessary and useless. For this reason, therefore, if either through the obstinacy of the friends, or the diffidence of the patient, the preceding regimen be opposed, I esteem it safest to bleed, which indeed, tho' it is in its own nature prejudicial in this kind of small-pox, inasmuch as it disturbs the separation, and lessens the supplies intended to keep up the eruptions and swelling, yet it makes some little amends for the injuries of the subsequent hot regimen, and therefore renders this method, which I would not use, unless compelled thereto, less dangerous.

Bleeding
sometimes
necessary.

49. From what has been said, it will be easy to solve the common difficulty; *viz. whence it happens that so few of the poorer sort die in this disease, in comparison of the rich that are destroyed thereby*; for which indeed

Why more
rich per-
sons die
than poor.

(*d*) To prevent the contents of the pustules in a state of supuration from entering into the vessels, *Boerhaave* also observes that there is not a nobler remedy than *Canary* wine, drank moderately, *e. g.* to the quantity of an ounce, three or four times a day. Opium may be given sparingly, to check the violent motion of the blood and juices. If these avail not, he adds, "I know not what will relieve." *Prax. med. vol. v. p. 319.*

scarcely

scarce any other cause can be assigned, than that by reason of the narrowness of their circumstances, and ordinary way of living, they have not the means of injuring themselves, as the rich have, by a more elegant diet. But this disease has proved fatal to abundance more of the common people, since they knew the manner of using *mithridate*, *diascordium*, *harts-horn drink*, &c. than it usually did in the less learned, but more prudent ages: for at present there is scarce an house without some illiterate, presuming woman, who, to the destruction of mankind, practises an art she never learnt.—And let this suffice with respect to the cure of the *distinct small-pox*.

50. But in the *confluent small-pox* there is great danger: for I judge this kind differs as much from the other, as the *plague* does from this, tho' the vulgar, who admit names and words for things, hold the cure of both to be the same. In this kind of disease, as it proceeds from a greater inflammation of blood, more caution is required not to heat the patient; as we observed above, in treating of the former sort. But though this kind naturally demands greater cooling than the other, yet in order to promote the swelling of the face and hands, (without which death must ensue) and the elevation and increase of the eruptions, and likewise because the patient, on account of the painful ulcerations, cannot sit up, it is proper he should keep his body, and even his hands, in bed, provided he be lightly covered, and allowed to turn himself therein as he pleases; as we before intimated in treating of the *distinct* sort (*e*). And in the declension of the distemper, upon the approach of the *suppurative fever*, he must not only be allowed this liberty, but admonished to make use of it, and must be turned often night and day, to moderate the excessive heat, and prevent sweat, by which the soft humour is discharged, wherewith the *small-pox* should be diluted to render them mild.

Difference between the *distinct* and *confluent small-pox*.

Necessity of keeping in bed in the *confluent* kind.

51. Since therefore, as we remarked above (*f*), a spitting constantly accompanies this kind of small pox, which, as it is one of nature's principal evacuations, and is here substituted instead of that which should have

(*e*) See above, *Par.* 46.

(*f*) See above, *Par.* 13.

Sect. 3. been made by pustules (for the evacuation by pustules does not go on so well in this low and flat sort, as in the other) we must diligently endeavour to keep it at its height, and prevent its stopping too soon, either from the use of heating remedies, or by forbidding the free use of small-beer, or some such liquor. Now as the spitting, in its natural order, is to begin as soon as the eruptions appear, and abate on the *eleventh* day, but not vanish entirely till a day or two after; so if it goes quite off before that day, there is danger. For as the swelling of the face, whereby some part of the morbid matter is evacuated, always vanishes on that day, if the salivation stops at the same time, the patient is infected by the variolous matter, now become corrupt, as by a poison; and there being no way left for it to pass off, the danger is imminent, unless perhaps, as it sometimes happens, the swelling of the hands (which as it comes on later than that of the face, so it goes away more slowly) be so considerable, as to snatch the patient from impending death. The salivation, which is so very advantageous and necessary here, may be much promoted by drinking freely of small-beer, or some other liquor that neither heats, nor excites sweat.

How promoted.

Opiates excellent for this purpose.

52. But besides these, in order to check the violent ebullition of the blood, in which this sort of small-pox greatly exceeds the *distinct* kind, and to keep up the spitting (the necessary evacuation in this disease) opiates are more proper than any other remedies; and tho' by their inrassating quality they may seem in some measure to hinder the expectoration, yet I have long shaken off that prejudice, and given them in this disease with great success, provided the patient was above *fourteen*. For as the blood of infants and children, who generally sleep tolerably well throughout the course of this disease, ferments more gently, it stands less in need of such a check; and moreover, by the use of this kind of remedies, the looseness, which nature appoints to be an evacuation for children in this kind of disease, is stopt to the detriment of the patient.

Good effects of them in grown persons.

53. But in grown persons the frequent use of opiates is attended with the following advantages. (1) By procuring moderate rest they abate the violent ebullition of the blood, and of course prevent a *delirium*; (2) they promote the swelling of the face and hands in a better manner,

manner, which is a very considerable natural evacuation Chap. 2.
 in this disease; (3) they keep up and prolong the swelling to its proper natural period; which greatly contributes to the patient's safety, as the swelling of the face often falls before, to the endangering the patient; for the heat of the blood being abated, the inflammatory rays are brought in due time to the hands, face, and the whole surface of the body, according to the nature of the disease; (4) they promote the salivation, which tho' it may be stopt in some subjects for a few hours, by means of so powerful an incrassating medicine, yet the strength being increased by these new helps, nature resumes fresh vigour, and happily finishes the work begun; (5) moreover, I have observed that the spitting, which usually abates about the *eleventh* day, and sometimes earlier, to the great detriment of the patient, by giving opiates a few times has been raised anew, and not ceased before the fourteenth day, and sometimes later. I usually give about fourteen drops of *liquid laudanum*, or an ounce of syrup of white poppies, in a little *cowslip-flower water*, or some such distilled water; and if either of these medicines be given to grown persons every night after the eruption is over, to the end of the disease, not only no inconvenience, but great service will thence accrue to them, as I have frequently experienced. But I judge it proper to exhibit an opiate a little earlier than is otherwise usually done; for it is easy to be observed in the worst kind of *small-pox*, that a hot fit, attended with restlessness, anxiety, and other symptoms, generally comes on in the evening, which may in some measure be prevented by administering an opiate at six or seven at night.

54. In the next place, since a *looseness* as certainly accompanies the *confluent small-pox* in children, as a *salivation* does the same in grown persons: nature, as we observed above, constantly providing one of these evacuations to expel the morbid matter; so I take care by no means to check this looseness, any more than the salivation, both being alike improper. And the unseasonable endeavours of some imprudent women to stop the looseness has proved fatal to abundance of infants, whilst they falsely conclude it to be equally dangerous in *this* as in the distinct kind; not knowing that it is only detrimental in that kind where the evacuation is made.

When best given.

Danger of checking the looseness here in children

Sect. 3. made by pustules, but is here the work of nature searching a passage for the disease to escape (g). Disregarding therefore the looseness, and assisting nature, as *Hippocrates* directs, I go on as I begun, advising them sometimes to keep the children in the cradle, and sometimes to take them up, and if they be weaned I allow them the same diet as I before ordered for grown persons.

The face to be anointed with oil of sweet almonds in the decline 55. In the declension of the disease, when the face is stiff, occasioned by the eruptions becoming crusty, hard and dry, I anoint it frequently with *oil of sweet almonds*, as well to ease the pain thence arising, as to promote a freer exhalation of the hot *effluvia*. I use no endeavours to prevent the pitting of the face, inasmuch as oils, liniments, &c. only cause the white scurf to scale off more slowly (h), which, falling off, and coming on again alternately, after the patient has quitted his bed, and is pretty well recovered, is gradually succeeded by unseemly scars. But the patient need not be very anxious about these, when by reason of a previous temperate regimen, the eruptions, having been little irritated, have contracted no caustic quality.

A different method sometimes necessary. 56. Now, tho' this method, provided it be carefully and prudently suited to particular circumstances, will prevent the abovementioned preternatural and dangerous symptoms, and render the disease very gentle and safe, yet in some cases, which I shall here subjoin, I find it necessary to use a different method, in order to over-

(g) A looseness, says *Hoffman*, even tho' it be considerable, is not to be apprehended here, for so far has it been from hindering either the eruption, or the suppuration, and striking the matter in, that I have known it run thro' the whole course of the distemper, without danger. And as *petechial* malignant fevers are frequently terminated *critically* by a looseness, so likewise experience shews that the same happens in the small-pox. Elsewhere he says, that in a dry summer, the small pox is particularly inflammatory, and readily accompanied with a looseness, which is absolutely not to be stopp'd, but only moderated by proper remedies; observing to avoid the heating regimen, and warm medicines, and likewise cooling the body, and refrigerating medicines. Neither, adds he, is a looseness detrimental, when the *small pox*, by reason of the irregularity of the season, is complicated with *petechiæ*, but it is rather a wholesome remedy, and admirably purges off the malignant and excrementitious humours.

(h) Unctuous and oily applications obstruct the pores, hinder perspiration, and make the pits much more visible.

come

come and remove them, from what cause soever they arise before I am called. Chap. 2.

57. First, therefore, if in the *distinct* kind, by means of an over-hot regimen, and continual sweats, the face does not swell on the *eighth* day, but is flaccid; and the spaces between the eruptions look pale, whilst these in the mean time shew themselves in great abundance; besides using my utmost endeavours for a more temperate regimen, and to check the violent motion of the blood, I immediately direct an opiate to be given, which by gently procuring sleep (unless the brain be over-heated) and consequently moderating the tumult raised in the blood, seasonably determines it, together with the heat, to the face, as the nature of the disease demands.

The face, how made to swell, in the *distinct* kind.

58. But if the mischief hence arising has proceeded so far, that the sweat, which had hitherto flowed plentifully, ceases spontaneously, the patient is seized with a *delirium*, complains of great sickness, and makes urine often in a small quantity; in this case, the danger of death being imminent, I conceive he can only be relieved, either by giving opiates freely, or taking away a large quantity of blood, and exposing his body to the open air. Nor indeed will what I have now proposed seem so imprudent and unreasonable, upon attending to those who have escaped imminent death, by a plentiful bleeding at the nose, suddenly arising. Moreover it must be considered that, in this dangerous extremity, death does not ensue because the eruptions strike in, for they appear red and plump, even when the patient is expiring, but because the face does not swell. Now whatever tends to abate the heat of the blood (and I conceive none will deny that bleeding and moderate cooling have this virtue) must necessarily help to promote the swelling of the face, as much as the use of opiates, and apparently for the same reasons.

Opiates or bleeding, when required.

59. But I would not have this understood as if I would advise bleeding immediately in every *delirium* happening in the *small-pox*, since no symptom oftener occurs in this disease; but (1) in that only which happens because the face does not swell, that is, in the *distinct* kind, the eruptions at the same time being pretty numerous; or (2) where the motion of the blood is become so violent and immoderate by means of a very

Further explained with respect to bleeding.

Sect. 3. hot regimen, and the use of cardiacs, as to render it unsafe to wait till it can be reduced to a due temper by opiates, and other medicines productive of the like effect. When the case is thus circumstanced, the physician, consulting his duty rather than a precarious reputation, ought either to bleed, as above intimated, or order the patient to be refreshed with the open air; and to obtain the end here it has frequently seemed sufficient to me, for the patient to rise, and sit up a while in his raving fit, by which expedient I have saved several from death. And besides those I have seen, there are numberless instances of persons who by this means have been snatched from imminent danger. For some delirious persons deceiving their nurses (and those who are light-headed use wonderful contrivances) and getting out of bed, have remained exposed to the cold air, even in the night; and others again, either by stealth, unawares, or by intreaty have got cold water of their nurses, and drank it, and thus by a happy mistake recovered their health when despaired of (i).

Sitting up a while recommended in a delirium.

The case of a person recovered by the like treatment. 60. I will here communicate a single instance, which I had from the person concerned. He told me that when he was a young man, he went to *Bristol*, and was there seized with the *small-pox* about *midsummer*, followed soon after by a *delirium*. His nurse, going into the city, left him in the mean while to the care of some other persons, intending to be back soon; but making a pretty long stay, the patient in the interim died, as the attendants thought; who considering the heat of the season, and his corpulency, that the body might not smell, took it out of bed, and laid it naked on a table, throwing a sheet over it. The nurse at length returning, and hearing the ill news, entered the room to behold the sad spectacle, and immediately throwing by the sheet, and looking on his face, imagined she saw some

(i) A phrenzy coming on the 4th day of the eruption, is justly esteemed of very bad omen; insomuch that Dr *Freind* says, that he never saw a patient recover, who had had this symptom*. But I can positively declare, that I have had better fortune; having recovered many who had been seized with a *delirium* at that time, by drawing blood immediately, and then throwing in a glyster. *Stack's Translation of Dr Mead's Discourse on the Small-pox*, p. 42.

* *Epist. de quibusdam variolarum generibus.*

small signs of life, and therefore put him to bed again Chap. 2.
directly, and using some means or other brought him }
to himself, and he recovered in a few days.

61. But to resume our subject: if the *saliva*, in the A garga-
confluent small-pox, becomes so hard and viscid by the rism to be
preceding heat as to endanger suffocation, which, as we used when
observed above, commonly happens on the *eleventh* day, the saliva
is hard and is hard and
a gargarism must absolutely be used, and great charge tough.
given to syringe the throat with it often night and day.
Small-beer or barley-water, mixed with honey of roses,
may be used for this purpose, or the following:

Take of bark of elm, six drams; liquorise root, half The gar-
an ounce; twenty ston'd raisins; red roses, two pu- garism:
gils; boil them together in enough water to leave a
pint and half; in which, when strained off, dissolve
simple oxymel and honey of roses, of each two ounces:
mix the whole for a gargarism (k).

But if the patient has been treated in a proper manner,
the salivation, even tho' it has begun to abate, will so
effectually answer its end, as to render this remedy
needless. And in reality when the patient is every mo-
ment in danger of suffocation, oppressed with a *stupor*,
and breathes with the utmost difficulty, 'tis not safe to
trust to this remedy. In this case I have sometimes sea- A vomit
sonably and successfully given a vomit of the infusion sometimes
of *crocus metallorum*, in a larger dose than ordinary, *viz.* successful
an ounce and half; because the *stupor* is so considerable in this case.
that a smaller quantity will not operate, but, by disturb-
ing those humours which it cannot eject, greatly en-
dangers the life of the patient. Neither can we whol-
ly trust to this remedy, and (which is truly to be re-
gretted) we are hitherto unprovided with a more cer-
tain and effectual one to conquer this dreadful symptom,
which alone destroys most of those who die on the *ele-*
venth day in this kind of *small-pox*.

(k) If the spitting does not go on to our wishes, it ought to
be promoted by medicines which stimulate the glands of the
mouth; especially *gargles* made of a decoction of *mustard seed*
and *pepper*, with the addition of *oxymel*. For in the *confluent*
and *malignant* small-pox, if this flux does not arise, and even
continue to the end of the disease, it is a very bad sign. *Stack's*
Translation of Doctor Mead's Discourse on the Small-pox, p. 69.

Sect. 3.

Advantages of a temperate regimen.

A coma cured by cooling the blood.

And purple spots also.

A suppression of urine how caused and remedied.

Cardiacs when particularly to be given in the distillat small-pox.

62. As the other symptoms happening in this distemper are prevented, so likewise most of them are relieved by a temperate regimen. For instance, as the *delirium* abovementioned, proceeding from the too great heat of the brain, is removed by some way cooling the blood, so by the same means a *coma* is easily remedied, which seems to be a quite different symptom from the former, and arises from an obstruction of the *cortical* part of the brain from hot *effluvia*, proceeding from the blood attenuated by a hot regimen, and heating medicines, being violently driven thither in great abundance.

63. By cooling the blood in this manner I have seen purple spots removed; but have not yet been able by this or any other method to stop *bloody urine*, or a *violent flux of blood from the lungs*, but so far as I have hitherto observed both these hæmorrhages certainly prognosticate death.

64. In a *suppression of urine*, which sometimes happens in young and lively persons from the great confusion and disorder of the spirits subservient to this excretion, by reason of the immoderate heat and agitation of the blood and juices, I have had recourse to all the kinds of diuretics; but nothing has succeeded so well with me as taking the patient out of bed, who being supported by those about him, and taking two or three turns cross the room, has immediately made water pretty plentifully to his great relief. To confirm the truth of this, I might here appeal to some physicians of my acquaintance, who by my advice have directed the same expedient to be used in the same case, and found it answer the end (1).

65. But the symptoms proceeding from the striking in of the *variolous* matter, by intense cold, or unseasonable evacuations, must be remedied by cardiacs, and a suitable regimen; which, however, must not be continued longer than these symptoms last. The principal of these are, a *depression*, or *sinking of the pustules*, and

(1) The most convenient method of relieving this symptom will be, to open the body by a *glyster*, especially if, the pustules now appearing, there be any fear of taking cold, and then to insist a little on diuretic medicines: for which purpose *Glauber's salt* is particularly useful, as it is both laxative and diuretic. *Stack's Translation of Mead's Discourse on the Small-pox*, p. 70.

a *looseness*, both in the distinct kind. For in the *confluent* kind neither the sinking of the pustules threatens danger, this being the nature of the disease, nor a looseness in children, because it promotes their recovery. In either case it is highly proper to give a cordial draught, made of some *proper distilled waters*, mixed with *diascordium*, *liquid laudanum*, &c. not only in order to remove the abovementioned symptoms, but at any time of the disease, if the patient complains of a pain at the heart and sickness. But to speak the truth, the symptoms of this kind very rarely happen, in comparison of those arising from the other more fatal, tho' less censured, extreme. And in reality I judge the rumor which has so much prevailed, of the frequent striking in of the eruptions, to proceed from hence, that such as have observed the depression of them in the *confluent* kind, esteemed it to be a striking in of the *variolous* matter from taking cold, whereas here, it is only the nature of the disease: and they suspect the same in the *distinct* kind, because they look for the eruptions and increase of the pustules before the due time; not having sufficiently attended to the time wherein nature usually finishes the suppuration of this sort of small-pox.

66. When the patient begins to recover, and the eruptions scale off, and he has eat flesh a few days, for example, the *one and twentieth* day, I judge it requisite to bleed in the arm, if the disease has been violent: for the inflammation communicated to the blood by the *small-pox*, whether in grown persons, or children, equally indicates bleeding, as the foulness collected in the habit does purging; as appears sufficiently both from the colour of the blood taken away after a severe small-pox, which exactly resembles that of pleuritics, and likewise from the great inflammations that fall on the eyes after it is gone off, and other pernicious effects, arising from the blood over-heated and vitiated thereby. Hence also it follows, that such as enjoyed a good state before they had the small-pox, are afterwards afflicted with a defluxion of sharp hot humours upon the lungs, or some other part for the remainder of life. But if the pustules were few, bleeding is unnecessary: after bleeding I purge three or four times (*m*).

When and where bleeding should be used.

67. To

(*m*) There is no species of fever that requires the body to be
 1 3
 tho-

Sect. 3. 67. To these observations let me add, that after the patient has been long recovered from the *confluent* small-pox, and rises every day, there sometimes happens a troublesome swelling of the legs, which either goes off spontaneously after bleeding and purging, or is easily cured by the use of fomentations, made of *emollient* and *discutient* herbs, boiled in *milk*; as the leaves of *mal-lows*, *mullein*, *elder*, *laurel*, and *camomile* and *melilot* flowers.—And let this suffice for the history and cure of the *small-pox*, that prevailed for these two years, which I chuse to call *legitimate* or *regular*, in order to distinguish them from the other kinds that succeeded them.

The swelling of the legs how remedied.

C H A P. III.

The continued Fever of the Years 1667, 1668, and part of 1669.

The fever of this constitution described.

I. Proceed now to treat of the *fever* that prevailed during this *variolous constitution*, and began and ended with the *small-pox*. (1) The patient was seized with a pain below the pit of the stomach, and such a soreness that he could not bear to have it touched, which symptom I do not remember to have observed in any other disease besides this fever and this kind of small-pox; (2) a pain in the head, a heat of the whole body, and also very visible *petechiæ*; (3) little thirst; (4) the tongue like that of a healthy person, unless that it was sometimes white, but very rarely dry, and never black; (5) profuse spontaneous sweats in the beginning, which afforded no relief, and, being promoted by a hot regimen and hot medicines, soon endangered a *delirium*, augmented the number of the *petechiæ*, and rendered all the other symptoms more violent; (6) a laudable separation in the urine from the beginning

thoroughly cleared of the remains of the disease, more than this. Wherefore, upon the patient's recovery, blood is to be drawn, if his strength will bear it, and cathartics are to be given at several times at proper intervals. After which, the body is to be restored to its former state by a course of milk, especially that of asses, with suitable food, and the air and amusements of the country. *Stack's Translation of the Doctor's Discourse on the Small pox*, p. 59.

of the illness, that gave hopes of recovery, but did not relieve the patient more than the abovementioned sweats; (7) this disease, by wrong management, generally proved very obstinate, neither terminating by way of *crisis*, nor spontaneously in the manner of other fevers; but continued for 6 or 8 weeks, accompanied with violent symptoms, unless death interposed, and put a stop to it sooner; (8) when no considerable evacuation had preceded, and cooling julaps had been used, a pretty plentiful salivation sometimes arose towards the decline, whereby the disease was carried off beyond expectation, provided this discharge was not checked by evacuations, or the use of heating medicines.

2. Now as this fever depended upon that epidemic constitution of the air, which at the same time produc'd the small-pox; so in effect, it seem'd to be nearly of the same nature therewith, except in those symptoms which necessarily depended on the eruption. For they both attack'd in the same manner, and were attended with the like pain and soreness of the parts below the pit of the stomach, there was the same colour of the tongue, and consistence of the urine, &c. The same profuse sweat arose in the beginning, and the same tendency to a salivation when the inflammation was violent, as accompanied the small-pox, when it proved of the *confluent* kind. Since therefore this fever did also prevail chiefly at the time the small-pox was more epidemic than I had ever known it here, no one can doubt their being of the same tribe. This I certainly know, that all the practical indications were manifestly the same in both diseases, those excepted, which the eruption of the small-pox, and the symptoms thence arising, afforded, which could not be expected in this fever, because it was not attended with an eruption. And this indeed appeared very evident to me from the accurate observations I made in treating such as had either of these diseases. For these reasons I must be allowed to call this a *variolous fever* (a), not because I affect the giving new

Nearly resembled the small-pox.

Therefore called a *variolous fever*.

(a) In 1729, in the month of July, the *small-pox* prevail'd much at *Plymouth*; and during this month a *slow putrid fever*, which remitted towards the end, and at length intermitted, became very epidemic there. It chiefly affected the head, stomach and loins, as if the small-pox was coming on, and was attended with an oppression of the breast, sighing, and great faintness. Such a disease

Sect. 3. names to things, for no one can dislike that more than I do, but in order to distinguish it from other fevers, and on account of the great similitude which it bears to this sort of the small-pox.

Required a different treatment from the small pox.

3. But how nearly soever this fever resembled the small-pox, no judicious person will conclude that it ought to be treated in the same manner; because in the small-pox the inflamed particles are thrown out upon the skin, by means of little abscesses, whereas in the present fever they are discharged by salivation. For the profuse sweats at the beginning were *symptomatical*, not *critical*, nature seeming to have intended no other evacuation in this disease than a spitting: which yet she generally checks, either (1) by a looseness, which frequently proceeds from inflammatory rays (b) conveyed thro'

it was perhaps that Sydenham entitled a *variolous fever*. It chiefly attack'd children, women, young, or weak persons. The blood taken away was seldom viscid; the urine mostly crude, thin, and frequently let fall a cineritious, slimy and imperfect sediment, resembling flour, called by Hippocrates a *branny sediment*: the more perfect the sediment was, the more hopes there was of recovery. The tongue was not very dry, but appeared to be covered with a kind of viscous brownish *mucus*. Towards the declension of the distemper a looseness, or sometimes a dysentery, especially if a vomit had been omitted in the beginning, became very immoderate, and even proved fatal to some.

Bleeding, unless in the beginning, seldom did service; vomits were highly necessary, and afterwards *frequent blisters*, gradually applied, *gentle cardiacs*, *cinnabar*, *opiates*, *jack whey*, and *diluting subacid liquors* drank plentifully, prov'd very beneficial. As soon as the signs of *coction* appear'd, namely a sediment in the urine, and a remission of the fever, the *bark* admirably assisted the cure. If a *coma* or a *delirium* happen'd in the state of the disease, there was occasion to set cupping-glasses on the neck and shoulders, to bleed, and immediately apply blisters, especially behind each ear, and to the head, and forthwith inject a laxative glyster.

In the declension, lenient purges, especially *rhubarb*, advantageously carried off the putrid remains of the disease; but strong purgatives, or *aloetics* had very dangerous effects; for by the unseasonable use of these we have known the blood impoverish'd, and dreadful gripings occasion'd: moreover after a purgative, tho' it was very gentle, a *paregoric draught* was altogether necessary.

Numbers were seized with this distemper, but few died of it. Huxham *de aere et morb. epid.* p. 33, 34.

(b) The expression the author here uses of *inflammatory rays*, conveys no clear idea of the cause of a looseness; these rays not being sufficiently understood, nor their existence in the blood clearly prov'd. They are too subtle, one would think, to occasion an irritation of the bowels; and too immaterial to furnish supplies for the

thro' the mesenteric arteries into the intestines, and irritating them to discharge their contents, (as is usual also in pleurifies, and other inflammatory fevers, by reason of the great commotion of the blood and the hot particles, endeavouring to be cooled); or (2) by the profuse sweats, which by the appointment of nature equally accompanied this fever and the small-pox; and these sweats being *symptomatical*, the salivation, that would otherwise have proved *critical*, was derived another way, whence, unless art suggested some other evacuation, the disease continued for some weeks, and did not come to concoction in the manner of other fevers.

4. But to go on with our enquiry: in order to come at a better knowledge of the nature of this fever, and establish the curative indications on a solid foundation, it must be carefully noted that in the fever that prevailed during the *epidemic constitution* which gave rise to *intermittents*, the matter to be separated from the blood was so thick, that it could not be separated without previous digestion, fitting it for a proper evacuation, at an appointed time, either by means of a *plentiful perspiration*, or a *critical looseness*; so that the physician had nothing more to do than to suit the treatment to the nature of the disease, so as on the one hand to prevent its rising too high, and causing dangerous symptoms, and on the other to hinder its sinking so low as to be unable to expel the morbid matter; a fever being the instrument of nature to perform this secretion.

5. Again, there is likewise in the plague a matter to be separated from the blood, but as the parts thereof are very subtle and inflammable (so that sometimes when they are violently irritated they pervade the blood like lightning, and can raise no ebullition therein) it passes thro' the mass in a moment, and is only stopt in a gland, or some external part, where, being entangled, it occasions an inflammation, and afterwards an imposthume. Now an imposthume is the instrument of nature whereby she expels whatever injures the fleshy part, as a fever is her instrument to carry off whatever is prejudicial to the blood. In this case

The matter in the plague very subtle.

the discharge. The looseness therefore should rather seem to proceed from sharp humours strained thro' the mesenteric arteries into the intestines, and irritating them to frequent ejections; whence both the irritation and the discharge may be easily accounted for.

therefore

Sect. 3. therefore it is the business of the physician to assist nature in a proper manner in her endeavours to discharge the pestilential matter by these imposthumes; unless perhaps it should seem more adviseable to substitute some other evacuation in its stead, which might be more in his power, and he could regulate with greater certainty than that of nature. In the same manner does nature proceed in expelling the variolous matter, tho' it is a grosser species of inflammation, and discharged by means of numerous eruptions, instead of carbuncles and buboes, &c. so that in this case also the curative indications are to be so directed, as to promote the evacuation by the eruptions in a regular manner.

The *small-pox* a grosser species of inflammation.

No such gross matter in this fever.

6. But as in this kind of inflammatory fever we meet with no such gross matter requiring previous digestion before it can be expelled, as in the intermitting fever above described, so it is a fruitless endeavour to promote the ebullition in order to procure this kind of digestion. On the contrary, this procedure endangers the increasing a disease, the essence whereof consists in a very violent inflammation, and must likewise be improper here, because nature has appointed no evacuation for this fever by eruptions, as we see in *pestilential fevers* and the *small-pox*; tho' in other respects it resembles the latter. Hence it follows that the whole of the cure necessarily consists in checking the inflammation, by evacuations and cooling remedies. Having this end therefore in view, I attempted the cure of this fever by the following method, to which it readily yielded.

Its cure.

7. Being called to a patient, I immediately directed bleeding in the arm, if great weakness, or especially old age did not contra-indicate, and ordered the operation to be repeated every other day, for twice, unless the signs of recovery rendered it unnecessary. On the intermediate days I prescribed a glyster of milk and sugar, or the like to be injected; and directed the following julap, or one of the same kind, to be frequently used throughout the course of the disease.

The cooling julap.

Take of the distilled waters of purslain, lettuce, and cow-slip flowers, of each four ounces; syrup of lemons, an ounce and half; syrup of violets, an ounce; mix them together for a julap; and let three ounces of it be taken four or five times a day, or at pleasure.

I allowed whey, barley-water, and such liquors for Chap. 3.
common drink, and for diet, barley-broth, water-gruel, panada, roast apples, &c. but I forbad chicken broth, or any kind of broth made of flesh.

8. I chiefly recommended that the patient should not keep his bed constantly, but rise every day, and sit up a good part of the day, having observed in this fever, as in the pleurisy, rheumatism, and all other inflammatory disorders, wherein bleeding and the cooling regimen are the principal remedies, that neither the most cooling medicines, nor frequent bleeding can do service, whilst the patient lies perpetually in bed, and is inflam'd by the heat thereof, especially in the summer season. And upon this account the sweat which flow'd at times did not deter me from this method of cooling, both by giving cooling medicines, and forbidding a constant confinement in bed. For tho' one might reasonably expect great advantages in pursuing an indication taken from what generally proves serviceable, yet I have found, by constant experience, that the patient not only finds no relief, but contrariwise is more heated thereby; so that frequently a *delirium*, *petechiæ*, and other very dangerous symptoms immediately succeed such sweats, which seem to arise more from wrong management than from the malignity of the disease.

The danger of keeping the bed in this fever,

9. If it be here objected that this method of curing fevers runs directly counter to the theory of those authors, who unanimously maintain that a fever is most properly and naturally cured by sweat; besides the testimony of a never failing experience, which is always on my side, in the cure of this particular fever, these reasons also favour my practice: First, I imagine that those who contend for promoting sweat in order to take off a fever, mean such a one as appears after the previous digestion of some humour lodged in the blood, in preparing and moulding of which, that it might be discharged by sweat, nature has employed some certain fixt time. But here the case is quite otherwise, for profuse sweats arise in the beginning of the disease, and alone make a considerable part thereof; and, if we may judge from all the symptoms, this disease seems to proceed rather from the sole heat of the blood, than from some humour concealed therein, to be expelled, after due concoction, by sweat. But granting there is such an humour to be found in

The method of cure vindicated.

this

Sect. 3. this fever, as requires to be ripened by digestion, which is the case in many other fevers; yet to what purpose is it to comply with nature (whose violent efforts it is our business to moderate) by promoting these sweats with cardiacs, or a hot regimen, when she exerts herself too much already, since the trite axiom of *Hippocrates*, namely, that *concocted and not crude matters are to be evacuated (c)*, relates to sweating as much as to purging?

Exemplified in a case.

10. Whilst this constitution prevailed, I was called to Dr *Morice*, who then practised in *London*, and now in *Petworth*. He had this fever, attended with profuse sweats, and numerous *petechiæ*. By the consent of some other physicians, our joint friends, he was bled, and rose from his bed, his body being first wiped dry. He found immediate relief from the use of a cooling diet and medicines, the dangerous symptoms soon going off; and by continuing this method recovered in a few days.

Bleeding and cooling medicines best to stop the looseness.

11. But to resume our subject: neither did the looseness, which often accompanied this fever, at all hinder my proceeding in the abovementioned method; having experienced that nothing proved so effectual in stopping this discharge, as bleeding, and cooling the blood by barley-water, whey, and other things above enumerated; inasmuch as this looseness proceeded from inflammatory vapours, separated from the blood thro' the mesenteric arteries into the intestines, and vellicating these parts.

The hot regimen much more dangerous.

12. In reality this method succeeded admirably with me in the cure of this disease, and seemed better adapted to it than any other. I have however sometimes seen a very different method used with success, namely cardiacs and the hot regimen, but the patient always appeared to me to run great hazards unnecessarily. For by this means the *petechiæ*, which were otherwise very few, became exceeding numerous, the thirst, that was generally inconsiderable, was extremely increased, and the tongue, that was otherwise moist, and not much unlike that of healthy persons, except, as we said above, that it was whitish, appeared dry and crisp, and frequently turned black. Lastly, even the sweats, which they endeavoured to force by means of cardiacs, were,

at

(c) *Cocta, non cruda, sunt medicanda.* See Dr *Baker's* essay on the agreement betwixt ancient and modern physicians, p. 125.

at length, entirely stopt thereby. For too large a quantity of *serum* being drained off by the cutaneous ducts, the blood became unable to furnish more of it, and the fluid part being quite wasted, wherewith it should have been diluted, a dryness of the skin, and a stoppage of the pores ensued, (contrary to the ordinary course nature used to observe in this fever) till at length the blood, being again replenished by the moisture received from the aliment taken in, expels this *serum* together with the fever, partly by medicine, and partly by the force of the fever itself. But in reality this *crisis* was too forced, and too dangerous, and, which is still worse, it seldom happened.

Chap. 3.

13. But since, as we observed above, the solution or cure of this *fever*, and of the *small-pox* likewise, which so nearly resembles it, was frequently effected by a salivation, which always proved beneficial; so that when it flowed copiously, I have known both the purple spots and fever vanish; upon this account, therefore, when the salivation begins, no evacuation must be made, either by bleeding or glysters, since by the use of either it is odds but the humour is carried another way. But whey and other cooling things promote the necessary business of salivation; as, on the contrary, cardiacs, and all heating things, by thickening the matter, check its discharge.

This fever often terminated by a salivation.

14. Before this fever went quite off, and particularly in the year 1668, a *looseness* became epidemic, without any manifest sign of a fever, for the constitution at this time inclined to the *dysentery*, which prevailed in the following year, whereof we shall treat in the next section. Nevertheless, I judged this looseness to be the same fever with the then reigning variolous fever, and that it only differed in form, and appeared under another symptom. For having observed that a chilness and shaking did likewise ordinarily precede this looseness, and further, that it generally arose from the same cause with the then reigning fever, it seemed probable to me that this fever proceeded from inflammatory rays turned inwards upon the intestines, and irritating them to this discharge; whilst the blood, in the mean time, by this revulsion, was freed from the ill effects these rays would otherwise have occasioned, without any visible external sign of a fever. To this we may add, that

The rise of the epidemic looseness.

Sect. 4. that the parts below the pit of the stomach were so tender as not to abide the touch, which symptom, as we mentioned above (*d*) happened in the small-pox and fever of this constitution; and the same pain and tenderness of the flesh often reached to the *epigastrium*, and sometimes there was an inflammation, which ended in an imposthume, and destroyed the patient: all which apparently shewed this looseness to be of the very same nature and essence with the then reigning fever: and this opinion of mine was further confirmed from the good success, which bleeding and the use of a cooling regimen always had in stopping this looseness, for it readily yielded to this method, which is the same we used in the cure of the variolous fever, as we have frequently mentioned above. But when it was treated in a contrary manner, either (1) by giving *rhubarb*, and other *lenient purgatives*, to carry off the acrimonious humours, supposed to irritate the intestines to these discharges; or (2) by administering *astringents*; this disease, tho' naturally gentle, frequently proved mortal, as the bills of mortality of the current year sufficiently testified.—And let this suffice for the epidemic diseases that depended on this constitution.

Bleeding and a cooling regimen successful in stopping it.

Lenient purgatives and astringents extremely prejudicial

SECT. IV. CHAP. I.

The epidemic constitution of part of the year 1669, and of the years 1670, 1671, 1672, at London.

i. **I**N the beginning of *August*, 1669, the *cholera morbus*, the *dry gripes*, and likewise a *dysentery* that rarely appeared during the ten preceding years, began to rage. But tho' the *cholera morbus* proved more epidemic than I had ever known it before, yet nevertheless it terminated this year in *August*, as it always does, and scarce reached the first weeks of *September*. But the *dry gripes* continued to the end of *autumn*, and accompanied the *dysentery*, and prevailed more generally

(*d*) See Sect. III. Chap. II. Par. 2. and above, Par. 1.

rally than that distemper. But upon the coming in of Chap. I.
winter, this disorder likewise vanished, and appeared no
 more throughout the subsequent years wherein this con-
 stitution prevailed, whereas the dysentery became more
 epidemic. Now I judge the cause of this to have been,
 that the then reigning constitution had not yet so perfect
 a tendency to a dysentery, as to be able to produce all
 those symptoms in every subject, which affect such as
 are seized with this disease: for in the following *autumn*,
 when the gripes returned, the *dysentery* was accompa-
 nied with every pathognomonic symptom.

2. Between these gripes and the abovementioned dy- The rise of
 sentery, which raged very universally, a new kind of the *dysen-*
 fever arose, and attended both diseases, and not only *teric fever*.
 attacked such as had been afflicted with either of the
 former, but even those who had hitherto escaped them,
 unless that sometimes, tho' very seldom, it was ac-
 companied with slight gripings, sometimes with stools,
 and at others without. Now as this fever in some
 measure resembled that which frequently attended the
 abovementioned diseases, it must be distinguished from
 others, by the title of the *dysenteric fever*; especially
 since, as we shall afterwards shew, it only differed from
 the genius and nature of the dysentery in this particu-
 lar, that it had not those discharges which always ac-
 company the dysentery, nor the other effects necessari-
 ly occasioned by this evacuation. Upon the approach
 of winter the dysentery vanished for a time, but the dy-
 senteric fever raged more violently; and a mild *small-*
pox also appeared in some places.

3. In the beginning of the following year, namely, The *mea-*
 in *January*, the *measles* succeeded, and increasing every *les* ap-
 day till the vernal equinox, suffered few families, and *peared in*
 particularly no children, to escape. But from this time *January,*
 they abated nearly in the same degree they had in- 1670.
 creased, and appeared no more throughout all those
 years wherein this constitution prevailed, excepting on-
 ly the following year, in which they seized a few at
 the same time they arose in the preceding year.

4. This kind of the *measles* introduced a kind of And intro-
small-pox, which I was hitherto unacquainted with, so duced an
 that to distinguish it from the other kinds, I chuse to *anomalous*
 entitle it the *anomalous* or *irregular small-pox* of the *small pox*.
dysenteric constitution, because of its irregular and un-
 common

Sect. 4. common symptoms, which differed considerably from those of the *small-pox* of the foregoing constitution; as will appear hereafter, when we come to give the hi-

story thereof. This *small-pox*, tho' not near so common as the measles, attacked several persons, till the beginning of *July*, when the dysenteric fever prevailed, and became epidemic. But upon the approach of autumn, namely, in *August*, the dysentery returned, and made a greater devastation than in the preceding year, but it was checked by the winter's cold, as before: and these being conquered, the dysenteric fever and *small-pox* raged the winter throughout.

Intermittent tertians arose in Feb. 1671.

5. But about the beginning of *February* in the following year, *intermittent tertians* arose, whence both diseases became less frequent. And tho' these tertians were not very epidemic, yet they prevailed more generally than any I had ever seen at any other time since the close of that constitution, which, as we before observed, had so remarkable a tendency to produce them (a). But these, according to the manner of vernal intermittents, went off immediately after the summer solstice. In the beginning of *July* the dysenteric fever again resumed the station it held in the preceding years; and towards the decline of autumn, the dysentery returned a third time, but did not rage so much as in the immediately foregoing year, wherein it seemed to have arrived at its height; but upon the approach of winter it vanished, and the dysenteric fever and *small-pox* prevailed during the rest of that season.

The order in which the epidemic diseases proceeded during 1671.

1672.

6. We observed above, that at the beginning of the two preceding years two remarkably epidemic diseases raged, (*e. g.*) the *measles* at the beginning of 1670, and *intermittent tertians* at the beginning of 1671, and prevailed so considerably as to over-power the *small-pox*, and prevent its spreading much in the beginning of these years. But in the beginning of 1672, when those obstacles to its progress were removed, and this distemper reigned alone, it, of course, proved very epidemic till *July*, when the dysenteric fever again prevailed, but soon gave place to the dysentery, which returned a fourth time in *August*, and was then not only less frequent but attended with milder symptoms than in the former years. Moreover the

(a) See Sect. I. Chap. III. Par. 1, 5.

Small-pox likewise attacked a few, so that it was not easy to distinguish which of the two diseases prevailed. I conceive indeed that the constitution of the air, having a less tendency to produce the dysentery, render'd the small-pox powerful enough to equal it, otherwise than it happened in those years wherein the dysentery proved extremely mortal in *August*. The winter, as usual, put a stop to the dysentery, but the fever and small-pox remained, and the latter, according to its nature, became the chief disease, and continued all winter, and attacked a few in the following spring, and likewise in the beginning of summer; but it was considerably milder than this kind had been before.

7. But when I affirm that one epidemic disease is expelled by another, I do not mean that the yielding disease becomes quite extinct, but only less frequent; for during this constitution each disease appeared even in that season which least favoured it. For instance, the dysentery, tho' it be a disease particularly belonging to *autumn*, did perhaps attack a few in the spring, but very rarely.

8. We have therefore sufficiently proved that, during the course of this constitution, the dysenteric fever prevailed in the beginning of *July*, in which month autumnal fevers as certainly arise, as vernal ones do in *February*. But upon the approach of autumn the dysentery succeeded it, which, strictly speaking, is an autumnal disease; and this being overcome by the winter, the dysenteric fever and the small-pox prevailed, which last distemper continued all that winter, the next spring, and ensuing summer, till the return of *July*, when it was expelled by the epidemic dysenteric fever. —And these were the revolutions that happened whilst this constitution lasted.

How the diseases succeeded each other during this constitution.

9. It must further be observed, that as each epidemic disease is attended with its periods of increase, height, and decline, in every subject; so likewise every general constitution of years that has a tendency to produce some particular epidemic, has its periods, according to the time it presides; for it grows every day more violent, till it comes to its height, and then abates nearly in the same degree, till it becomes extinct, and yields to another. But with respect to the symptoms, they are most violent in the beginning of

Every general constitution has its peculiar periods.

Sect. 4. the constitution, after which they gradually abate, and in the close thereof are as mild as the nature of the disease, whence they proceed, will give leave: which appears manifest in the dysentery and small-pox of this constitution, as we shall presently shew more at large. I proceed now to treat particularly of the diseases of this constitution, according to the order which they observ'd.

C H A P. II.

Of the Cholera Morbus of the Year 1669.

When the cholera morbus arises.

I. **T**HIS disease, as we before said, was more epidemic in the year 1669, than I ever remember to have known it in any other. It comes almost as constantly at the close of *summer*, and towards the beginning of *autumn*, as swallows in the beginning of *spring*, and cuckows towards *midsummer*. There is also an indisposition caused by a surfeit, which happens at any time of the year, which with respect to its symptoms resembles the *cholera morbus*, and yields to the same treatment, and yet it is of a different kind. The *cholera morbus* (c) is easily known by the following signs:

(1) im-

(c) This distemper is defined, “a preternatural inversion of the peristaltic motion, or a convulsive contraction of the stomach and bowels, occasioned by an acrimonious and caustic matter of different kinds therein contained, and accompanied with an immoderate discharge of bilious matters both upwards and downwards.”

It is seated in the whole volume of the stomach and intestines, but especially in the *duodenum*, and bilious ducts, as appears by the vomitings and stools, which are generally mixt with bile. That the *duodenum* is the chief place where such mixture is made, is further manifest, partly, from its circumvolutions and windings, and partly, from the flowing of the bile and pancreatic juice from the *ductus cholidochus* into this intestine, whence it seems well adapted to produce and lodge the acrimonious matter here discharged. It differs from a bilious looseness in being constantly attended with vomitings, and a greater degree of danger.

This distemper may proceed from (1) poison, (2) strong emetics, or purgatives, (3) diet, which is apt to ferment, and readily corrupts, and also (4) from a violent fit of anger.

It generally proves of short duration, terminating the *third*, or *fourth*, or sometimes, but very rarely, the *seventh* day, beyond which it never lasts, unless it turns to some other disease.

For

(1) immoderate vomiting, and a discharge of vitiated humours by stool, with great difficulty and pain; (2) violent pain and distension of the *abdomen* and intestines; (3) heart-burn, thirst, quick pulse, heat and anxiety, and frequently a small and irregular pulse; (4) great *nausea*, and sometimes colliquative sweats; (5) contraction of the limbs; (6) fainting; (7) coldness of the extremities, and other like symptoms, which greatly terrify the attendants, and often destroy the patient in twenty four hours. There is likewise a dry *cholera* (*d*) caused by a *flatus*, passing upwards and downwards, without retchings or stools, which I never saw but once, and that was, at the beginning of the present *autumn*, when the former kind was very common.

Chap. 2.

Its symptoms.

The dry cholera extremely rare.

2. Much consideration and experience have taught me, that to endeavour on the one hand to expel the sharp humours which feed this disease by *purgatives*, would be like attempting to extinguish fire with oil, as the most lenient cathartics would increase the disturbance, and raise new tumults. And, on the other hand, to check the first effort of the humour in the very beginning, by *opiates* and other *astringents*, whilst I prevented the natural evacuation, and forcibly detained the humour in the body, would doubtless destroy the patient by an intestine commotion, the enemy being

Purgatives and astringents bad in the cholera morbus

For the most part it proves mortal, no distemper, except perhaps the *plague* and *pestilential fevers*, being so suddenly destructive as the *cholera*, especially when it attacks children, aged persons, or those who have been weakened by a long illness. The more corrosive the matter discharged is, and the more violent the thirst and heat, so much the greater is the danger; and if black bile mixed with black blood be voided, it denotes certain death, according to *Hippocrates*. See *Hipp. Aph. Lib. IV. Aph. 22*. An exorbitant discharge of green humours both upwards and downwards, faintings, a hiccup, convulsions, coldness of the extremities, cold sweats, a small intermitting pulse, and the continuance of the other symptoms after the looseness and vomiting cease, are esteemed mortal signs. But there is hopes of recovery if the vomitings stop, sleep succeeds, and the patient appears to be relieved; and also if the disease be prolonged beyond the *seventh* day.

(*d*) This is a considerable distension of the stomach and bowels by flatulent vapours, which are plentifully discharged both upwards and downwards, with extreme anxiety: a remarkable instance of which may be found in *Act. Med. Berolin. dec. II. Vol. III. p. 73*.

Sect. 4. pent up in the bowels (*e*). These reasons therefore led me to keep the middle path, *viz.* partly to evacuate, and

(*e*) The general indications of cure in this disease are, (1) to correct and soften the acrimonious peccant matter, and fit it for expulsion, and, if need be, to expel it by art; (2) to check the violent motions in a proper manner; and (3) to strengthen the weakened nervous parts.

When it is occasioned by (1) a corrosive poison, oils, mucilaginous and unctuous liquors must be taken by the mouth, and injected glyster-wise in large quantities; as *oil olive, oil of sweet almonds, a decoction of the shavings of hartshorn, water-gruel, barley water, and likewise milk, mixt with absorbent powders*, which makes it more effectual. (2) When by strong emetics and purgatives, *warm opiates, as mithridate, VENICE or LONDON treacle*, and the like, fomenting the stomach and abdomen with spirituous and strengthening fomentations, and afterwards embrocating with liniments made of *expressed oil of nutmegs, nerve ointment, &c.* will generally effect a cure. (3) When from fermentable and corrupted diet, encourage the discharge by *gentle emetics, lenient cathartics, and plentiful dilution with whey, thin water-gruel, the chicken water* advised by our author, and the like; and afterwards give strengthening medicines to compleat the cure. (4) When from a violent fit of anger, *emetics and cathartics* must by no means be exhibited, nor cold water, small-beer, or the like, drank immediately after, for fear of causing an inflammation of the stomach; but the acrimony and heat of the bile must be corrected by proper *absorbents, mixed with nitre, water gruel, barley-water, a decoction of the shavings of hartshorn, &c.* after which it may be carried off by *mild vomits*, such as *specacuanba root*, or *lenient purgatives, as rhubarb, manna, &c.*

Cold water is esteemed an excellent remedy in a cholera, and is said to be so much more effectual, the warmer the climate, season, and constitution of the patient be. It mitigates and takes off the violent heat, which arises in this disease from the vehement intestine attrition and motion of the sulphureous parts of the juices, dilutes and blunts the bilious acrimony of those contained in the first passages, and finally restores the tone and strength of the solid parts, considerably weakened by the violence of the distemper.

Dr Charles Ayton Douglas recommends the following method of cure.—If the patients be not too much exhausted, (says he) before I am called, I make them drink heartily of warm water three or four times, which they always throw up; this dilutes and so blunts the acrimony of the humours, and at the same time evacuates them; immediately after I advise them to drink plentifully of a decoction of oat-bread, baked without any leaven or yeast, carefully toasted as brown as coffee, but not burnt; which decoction ought to be of the colour of weak coffee. And this they do most willingly, as they are generally very thirsty, and always affirm that it is most grateful to their stomachs; and I do not remember that ever any vomited it. I have always used oat-bread, but when it cannot

and partly to dilute the humour; and by this method Chap. 2. which I found out and experienced many years ago, I have always conquered this disease.

3. Let a chicken be boiled in about three gallons of spring-water, so that the liquor may scarce taste of the flesh; and let several large draughts of it be drank warm, or, for want of it, of posset-drink. At the same time a large quantity of the same is to be given at several times, successively, by way of glyster, till the whole be taken in and discharged by vomiting and stool. An ounce of the *syrup of lettice, violets, purslain, or water-lilly*, may now and then be added to the draughts and glysters; but the chicken water will answer the end pretty well alone. The stomach in this manner being often loaded with a large quantity of liquor, and its motion, as it were, inverted thereby, and glysters being frequently thrown in, the sharp humours are either evacuated, or, their acrimony being blunted, restored to their due temper and mixture.

How to
be treated.

4. When this business is over, which requires three or four hours, an opiate compleats the cure. I frequently use the following, but any other may be substituted in its stead.

An opiate
when to
be given.

be had, I doubt not but wheat-bread, or meal well toasted may do.—But when the patient is much exhausted with violent evacuations, upwards and downwards, the first thing I give him is a large draught of the abovementioned decoction; and when the *Nausea* is pretty well settled, I frequently order two thirds of a grain of *opium*, for an ordinary person, increasing or diminishing the dose, according to the age or strength of the patient.—But if the patient be convulsed, and the extreme parts cold, and his pulse weak, and intermitting, then it is proper to give a strong dose of *liquid laudanum*, for instance, twenty five drops, in an ounce of strong cinnamon water, for an ordinary person, because it operates quicker than the *opium*, and afterwards a draught of any wine that is most agreeable to the patient, mixed with an equal quantity of the decoction; and they may afterwards take the decoction to quench their thirst; and now and then a little wine mixed with it, according as they need a cordial. To prevent a relapse, which the patient is not able to bear, it will be proper to repeat the opiate in a moderate quantity morning and night for some days; and care must be taken not to overload the stomach, or to eat any thing but what is of good nourishment, and easy to digest, and grateful to the stomach. See *Medical Essays, Vol. V. Part II. 8vo. p. 646.*

Sect. 4.

An ano-
dyne
draught.

Take of cowslip flower water, an ounce; Aqua mirabilis, two drams; liquid laudanum, sixteen drops; mix them together.

This method safer and quicker than the common one.

5. This method of diluting the humours is abundantly safer and quicker than the ordinary one of treating this dangerous disease, either by *evacuants*, or *astringents*; for evacuants increase the disturbance and commotions, and astringents detain the enemy in the bowels, so that, not to mention the trouble occasioned by prolonging the disease, there is danger lest the vitiated humours get into the blood, and cause a fever of a bad kind.

When *laudanum* is to be immediately given.

6. But it must be carefully noted, that if the physician be not called till the vomiting and looseness have continued, for instance, ten or twelve hours, and the patient is exhausted, and the extremities are grown cold, he must then, omitting all other remedies, have immediate recourse to *laudanum*, the last refuge in this disease; which is not only to be given during the urgency of the symptoms, but repeated every morning and night after the vomiting and looseness are gone off, till the patient recovers his former strength and health.

A surfeit totally different from the true *cholera morbus*.

7. Tho' this disease be epidemic, as we remarked above, yet it very rarely lasts longer than the month of *August*, wherein it began; whence one may take occasion to consider the elegant and subtile contrivance nature uses in producing epidemic diseases. For tho' the same causes entirely remain, which may occasion this distemper in several persons towards the end of *September* as well as in *August*, namely, a surfeit of fruit, yet we find the same effect does not follow (*f*). For whoever carefully attends to the appearances of a *legitimate* or true *cholera morbus*, of which only we now treat, must acknowledge that the disease occasionally happening at any other time of the year, tho' proceeding from the same cause, and accompanied with some of the same symptoms, totally differs from that just mentioned; as if there lay concealed some peculiar disposition in the air of this particular month, which is able to impregnate the blood, or ferment of the stomach,

(*f*) In a *cholera morbus* occasioned by a surfeit of fruit in autumn, *Boerhaave* highly extols oil of sulphur by the bell. See *Prax. Med. Vol. III. p. 245.*

with

with a kind of specific alteration, adapted only to this Chap. 3. disease. }

C H A P. III.

Of the Dysentery of part of the year 1669, and of the years 1670, 1671, 1672.

I. **I**N the beginning of *August*, 1669, as before observed, the *dry gripes* appeared, and during the course of that autumn equalled, or rather exceeded the *dysentery* which arose with them, in respect to the numbers they attacked. Sometimes a fever accompanied them, and sometimes not; but they exactly resembled the gripes which attended the dysentery that prevailed at the same time; for they were extremely violent, and attacked at intervals, but no natural or mucous stools succeeded. They prevailed equally with the dysentery throughout this autumn, but appeared no more epidemically in the following years of this constitution. As these dry gripes differ little either in their nature, or the method whereby they were easily removed, from the dysentery, I proceed to treat of this last distemper.

The rise and progress of the dry gripes.

To be treated as the dysentery.

2. It has been already remarked that the *dysentery* generally comes, as the present one did, in the beginning of *autumn*; and goes off for a time upon the approach of winter; but when a series of years are too much disposed to produce it epidemically, it may seize a few at any other time, and abundance at the beginning of spring, or perhaps earlier, if warm weather immediately succeeds a severe frost, terminated by a sudden thaw. And tho' very few may be attacked with it, yet as this happens at so unusual a time, I am well convinced that the constitution eminently favours this disease. Thus it happened in those years wherein the dysentery proved very epidemic; for sometimes, as we observed above, it seized a few towards the end of winter, or beginning of spring (g).

The dysentery usually comes in the beginning of autumn.

3. It

(g) The *dysentery* may be defined, "a convulsive motion of the intestines, caused by a caustic, ulcerating humour, lodged in their coats, occasioning a frequent inclination to stool, and a frequent discharge of mucous, bilious matters, tinged

Sect. 4. 3. It sometimes begins (1) with a chilness and shaking, immediately succeeded (2) by a heat of the whole body, as
 Its symptoms.

“ more or less with blood, with vehement gripings, and a feverish commotion.”

It is generally *epidemic*, rarely *sporadic*, and appears with various degrees of malignity. It spares neither age nor sex, but attacks women as well as men, children and youth, as well as adults and aged persons, and suffers not even sucking children to escape. The plethoric, bilious, and those whose stomach is very weak, are chiefly subject to it, and it affects those more severely who have lived irregularly in point of diet, and eat large quantities especially of unripe and easily fermentable fruit.

It differs from a *looseness*, (1) by being attended with more violent gripings, and a discharge of bloody, purulent, putrid and extremely fetid matters; whereas what is voided in a looseness is either serous, slimy, or bilious, but never bloody. From (2) the *cholera morbus*, by its longer continuance, having no vomitings, unless in the beginning or state, occasioned sometimes by an inflammation of the stomach, being epidemic, and catching, and attended with a more painful *tenesmus*. From (3) a *flux of the hemorrhoids*, wherein pure blood is evacuated with advantage to health, by prevailing at a particular time of the year, being usually accompanied with a fever, and a voiding of blood, very seldom pure, but mixed with purulent, frothy, fetid matter, whence severe griping, and a very painful *tenesmus*; the evacuation not affording any relief, but on the contrary highly weakening and dispiriting the patient. From (4) an *hepatic flux*, where what is voided looks like the water wherein raw flesh has been washed, and comes away without pain, by the very different appearance of the discharges, the violent gripings attending them, the presence of a fever, and other bad symptoms. From (5) that disorder, consisting in frequent evacuations by stool, at first mucous, and afterwards tinged with blood, which is *endemic* at *Paris*, and seizes almost all foreigners, by being much more malignant, and likewise catching, accompanied with a fever, and occasioning a far greater loss of strength and spirits.

The dysentery is also divided into a *malignant* and *kindly* species. The latter continues longer, proves milder, and is less dangerous; but the former appears to be not only of a contagious nature, but attended with mortal symptoms, as an ill-conditioned fever, great loss of strength, extreme thirst, &c. It is further divided into a *red* and *white* kind: in the former the stools are tinged with blood, but in the latter they are purulent, mixt with caruncles and the *mucus* of the intestines.

Our author not having taken any notice either of the seat, or causes of this disease, we shall here deliver the sentiments of *Hoffman* on these heads, from whom we have taken most of the particulars above set down.

Its seat may be determined with ease, by attending to the part chiefly pained. If therefore (1) a violent pain be perceived near the navel, and a stool succeeds slowly thereupon,

as is usual in fevers, and soon after (3) gripes and stools follow: it is indeed, frequently, not preceded by a fever, but

Chap. 3.

it is certain that the small guts are affected. (2) When the gripings affect the *epigastric* region where the *colon* is situated, or the *hypogastric* region and *hypochondria*, and the *faeces* are immediately discharged, it is manifest that the seat of the disease is in the great guts. Lastly (3) where there is a continual inclination to go to stool, or a slimy and acrimonious *mucus* evacuated in a small quantity, it seems probable that there is an ulcer of the *rectum*.

With respect to the *procatartic*, or causes productive of the noxious humours occasioning a dysentery, they are chiefly of three kinds. For this disease may be caused (1) by the season. For instance, when the foregoing summer has been exceeding hot and dry, it arises towards the close thereof, and the beginning of *autumn*, namely in *August*, or *September*, especially if the violent heat of the day be succeeded by very cold nights, with *north* winds. For the blood having been remarkably thinned, and copious sweats occasioned by the preceding long continued heat and dryness of the air, the soft and fluid parts of the juices are thus dissipated, the remainder rendered acrid, impure and sulphureous, and the body debilitated; whence it follows that if persons, whose juices are thus depraved and vitiated, happen to be considerably exposed to the cold air in the evening, by being too thinly clothed, sitting long, or sleeping on the ground, &c. it causes a stoppage of the pores, and prevents the further exhalation of the yet fine sulphureous and impure parts of the fluids, which, uniting with the vapid lymph, degenerate into a viscous and very acrid matter, which by means of the febrile motion is brought to the intestines, the great strainer of such foul matters, and produces a dysentery. In this manner the field dysentery is generated, and may arise without the least concurrence of any malignant *effluvia*. (2) By exhalations and vapours of a contagious nature, which occasion an epidemic dysentery, of a more or less malignant kind. Such vapours are generated either (1) in the air itself from some malignant *effluvia*, exhaled from the earth, and a peculiar disposition of the winds, and are received in by breathing; or (2) they may be taken in with the aliment, especially greens and fruits, covered either with a poisonous coat, or the malignant eggs of insects, that float in great abundance in the air, at this time, and so mixed with the blood and juices. And it is worth notice that in such a constitution of the air, the poison received lies concealed and unactive in the body for a time, and only waits for an occasional cause to put it into action. Hence a dysentery has frequently been observed to happen at this time, from a very gentle irritation of the intestines by a mild purgative, or otherwise. The origin and cause of this infection, or contagion, may likewise be owing to the malignant *effluvia* exhaling from dysenteric bodies by insensible perspiration, or from their excrements, milk, or sweat. Dysenteries of a bad kind usually prevail, when the air appears to contain abundance of flies, caterpillars, spiders,

and

Sect. 4. but the gripes attack first, and stools soon succeed ; (4) however intolerable gripings, and a painful descent, as it were, of all the bowels always accompany the stools, which are véry frequent ; and (5) all mucous, not excrementitious, unless that sometimes an excrementitious one intervenes without any considerable pain ; (6) the mucous stools are generally streaked with blood, but sometimes not the least blood is mixed with them, throughout the whole course of the disease ; nevertheless if they be frequent, mucous, and accompanied with gripings, the distemper may as justly be entitled a dysentery, as if blood was discharged along with them (b). (7) Further, if the patient be in the vigour of life, or has been heated by cardiacs, a fever arises, and the tongue is covered with a thick white *mucus*, and if he has been very much heated it is black and dry ; great loss of strength, and lowness of spirits, and all the signs of an ill-conditioned fever are joined with it. (8) This disease occasions extreme pain and sickness, and greatly endangers life, if unskilfully treated ; for when the spirits are much exhausted, and the vital heat diminished, by frequent stools, before the matter can be expelled the blood, a coldness of the extremities ensues, and there is danger of death even within the periods of acute diseases. But if the patient escapes for this time, several symptoms of a different kind succeed ; for instance, sometimes in the progress of the disease, instead of those sanguineous filaments which are usually mixed with the stools in the beginning, a large quantity of pure blood, unmixed with *mucus*, is voided at every stool, which, as it manifests an erosion of some of the larger vessels of the intestines, threatens death. (9) Sometimes also the intestines are affected with an incurable gangrene, caused by the violent inflammation arising from the plentiful afflux of the hot and sharp matter to

A hot regimen and cardiacs detrimental.

and other insects. Lastly (3) this disease may proceed from eating fruit very freely, especially if it be unripe, or drinking fermentable liquors upon it, particularly, new wine, beer, cyder, and the like. The most noxious fruits are sweet cherries, peaches and plumbs, especially the large yellow plumb.

(b) This should seem to be what *Hoffman* terms the *white dysentery*, wherein the stools are purulent, mixt with caruncles and *mucus* abraded from the coats of the intestines. See *Hoff. Med. systemat. Tom. IV. Par. 111. p. 528.*

the affected parts (i). (10) Moreover, at the decline of the disease, *Aphthæ* frequently affect the internal parts of the mouth, especially when the patient has been kept very hot for a long time, and the evacuation of the peccant matter check'd by astringents, the fuel of the disease not having been first carried off by cathartics; these *Aphthæ* generally foreshew imminent death.

4. But if the patient survive the foregoing symptoms, and the disease prove lasting, the intestines at length seem to be affected successively downwards, till it be driven to the *rectum*, and ends in a *tenesmus* (k); upon which the natural stools, otherwise than in a dysentery, occasion great pain in the bowels, the *fæces* in their passage thro' them abrading the small guts; whereas the

This disease sometimes ends in a *tenesmus*.

(i) If the pain and thirst cease at once, the excrements be voided involuntarily, and have a fetid cadaverous smell, the pulse be small, and convulsions succeed, the intestines are judged to be affected with an incurable gangrene. A *delirium*, *aphthæ*, inflammation of the throat, a palsy of the whole *œsophagus*, coldness of the extremities, great anxiety, convulsions, and an hiccup are esteemed mortal signs in this disease. It is dangerous in women in child-bed, and oftener destroys aged, and very young persons, than the middle-aged. When it attacks cachectic, scorbutic, consumptive, or weak constitutions, and those who have suffered long under some disorder of mind, the case is generally desperate; and it threatens danger when the patient is troubled with worms. When it is accompanied with vomiting, and an hiccup succeeds, an inflammation of the stomach is to be apprehended. When the excrements are green, or black, and very fetid, and mixed with caruncles, the danger is imminent; for these signs denote an ulcer of the intestines. It is also an extremely bad sign if the glysters come away immediately after being injected, or the *anus* be so close shut that nothing can be thrown in; the former denoting a paralytic disorder of the intestines, especially of the *rectum*, and the latter a vehement spasmodic contraction of the same. It is proper to know that this disease sometimes proves mortal in a short time, namely in *seven* or *eight* days, particularly if a malignant fever prevails; but sometimes it runs on to the *fortieth* day, and beyond it, and when it has continued a long time either destroys the patient, or tho' it goes off, leaves some troublesome disorder behind it, often terminating in a *dropsy*, *lientery*, the *COELIACA PASSIO*, an *incurable hectic*, or a *consumption*.

(k) The *tenesmus* here should seem to arise from the extreme sensibility, and consequent mobility, of the part affected, occasioned by its continual irritation from the acrimonious humours lodged therein, which it is so much the more sensibly affected with, by its having lost much of the soft *mucus* in the course of the disease, which serves to defend it from such irritation.

Sect. 4. mucous stools only offend the *rectum* during the time that the matter is made, and discharged. But tho' this disease often proves mortal in grown persons, and especially in the aged, it is nevertheless very gentle in children, who have it sometimes for some months without any inconvenience, provided the cure of it be left to nature.

Is gentle in children tho' it often destroys adults.

5. What similitude there is between the dysentery here described, and the *endemic* dysentery of *Ireland*, I know not, having hitherto had no account of the latter. Neither have I discovered how far this dysentery resembles those happening in other years here in *England*. For possibly there may be as many sorts of dysenteries, as there are kinds of small-pox, and other epidemics peculiar to different constitutions, and which may therefore require a different method of cure in some particulars. Nor should this procedure of nature so much raise our wonder, since it is universally acknowledged, that the further we penetrate into any of her works the clearer proofs we have of the exceeding variety, and almost divine contrivance of her operations, which far surpass our comprehension. So that whoever has undertaken to fathom these matters, and search into the multifarious operations of nature, will find himself disappointed in his expectation, and not succeed in the attempt; and besides, if he be a judicious person, he will expect to be censured for making the most useful discoveries, for no other reason but because he was the first inventor.

There may perhaps be various kinds of dysenteries

All epidemics most subtle and spirituous at their rise.

Exemplified in the plague,

6. It must be further observed, that all epidemics at their first appearance, as far as can be judg'd from their symptoms, seem to be of a more spirituous and subtle nature, than when they become older; and that the more they decline, the more gross and humoural they daily grow; for whatever kind of particles those are, which, being intimately mixed with the air, are esteemed to produce an epidemic constitution, it is reasonable to conclude that they are possessed of a greater power of acting at their first appearance, than when their energy is weakened. Thus in the infancy of the plague scarce a day passed, but some of those who were seized with it died suddenly in the streets, without having had any previous sickness; whereas after it had continued for some time, it destroyed none, unless a fever and other symptoms had preceded; whence it clearly fol-

lows

lows that this disease, tho' it then took off fewer persons, was more violent and acute in the beginning than afterwards, when its influence was more extensive. Chap. 3.

7. In the like manner in the dysentery under consideration, all the symptoms were most severe in the beginning, tho', with respect to the numbers affected thereby, it increased daily till it came to its height, when consequently more persons died than in the beginning: yet the symptoms were more violent then, than in the height, and much more so than in the decline thereof; and, all circumstances being alike, abundance more perished. To this may be added, that the longer it continued, the more humoural it seemed to be; for instance, the first *autumn* it attacked, several had no stools at all; but with respect to the severeness of the gripings, the violence of the fever, sudden decay of strength, and other symptoms, it much exceeded the dysenteries of the following years. And further, the dysentery accompanied with stools, which appeared first, seemed to be of a more spirituous and subtile nature than those that succeeded; for in the first dysentery the provocations to stool, and straining, were greater and more frequent, and the stools, especially the natural ones, less both in point of quantity and frequency. But generally as the disease proceeded on its course, the gripings abated, and the stools became more natural, and, at length, the epidemic constitution declining, the gripes were scarce felt, and the excrementitious or natural stools exceeded the mucous ones in number. *and this dysentery.*

8. To proceed at length to the curative indications: after having attentively considered the various symptoms attending this disease, I discovered it to be a *fever* of its own kind, turned inwards upon the intestines; by means of which the hot and sharp humours, that were contained in, and agitated the blood, were thrown off by the meseraic arteries upon these parts, whence blood was discharged by stool, the mouths of the vessels being opened by the impulse of the blood and humours flowing thereto. And by the violent and frequent efforts of the intestines to discharge the sharp humours that continually vellicate them, the *mucus*, wherewith their inside is naturally covered, is cast out more or less copiously at every stool. The indications of cure therefore seem to offer themselves plainly; nor indeed have I judged

The curative indications.

Sect. 4. judged that I had any thing more to do, than (1) to make an immediate revulsion of these sharp humours by bleeding, and afterwards to cool the remainder; and (2) to evacuate them by purgatives (1).

The method of cure.

9. I therefore used the following method: upon being called in I immediately directed bleeding in the arm (m), and gave an opiate the same evening, and the next morning my usual gentle purging potion.

(1) There is scarce a disease which requires more skill in order to its rational cure than the dysentery. In general the indications of cure are; (1) to correct the noxious, acrid, peccant matter, of what kind soever it be, and expel it by the proper emunctories; (2) to ease the gripings, and quiet the convulsive motions of the intestines; and lastly (3) to exhibit proper remedies to heal the intestines, if ulcerated, or strengthen them, if too much weakened. The (1) is answered by *mucilaginous, smooth, and oily medicines*, taken internally, and injected by way of glyster, *gentle emetics* repeated as there is occasion, especially of *Ipecacuanba* root, which is esteemed a specific here in the beginning, and *lenient purgatives*. mixed with *absorbents*. In case of malignancy, a *breathing sweat* is to be promoted, and *proper cordials* exhibited. With respect to *Ipecacuanba*, it should be observed, that it proves most serviceable in robust and moist constitutions, where the first passages and bowels abound with foul humours, or the infection is newly received, whence a *nausea*, retchings, anxiety, &c. are occasioned. But if it be given after the disease has continued some time, and the patient has had frequent mucous as well as bloody stools, it will indeed in some measure check these evacuations, but increases the anxiety, so as often to render it necessary to renew the flux by means of emollient glysters. It is also hurtful if the liver be injured, or any of the *viscera* affected with an inflammation, a *scirrhus*, or cancer. With respect to *laxatives*, such as are sweet and apt to ferment are improper; as a *decoction of prunes*, a *solution of manna*, an *infusion of senna*, and all *laxative syrups*. *Violent purgatives* and *mercurials* are found to exasperate the symptoms. (2) The second intention requires *opiates* and *substringents*, and the application of *anodyne fomentations* and *liniments* to the stomach and abdomen. (3) The third demands either *detergents* and *balsamics*, or *strengthening remedies*, according to the nature of the case.

(m) Much experience has shewn that bleeding is absolutely necessary in the beginning, if the patient be plethoric, has been accustomed to drink wine freely, or the disease be accompanied with a continued fever. For it is a groundless apprehension that bleeding lessens the strength, since not only many in this disease die of an inflammation of the intestines, but also plethoric persons, if attacked with continued fevers, only perish from an over-fulness of blood, which readily occasions obstructions, a mortification and gangrene; whence bleeding must certainly be the properest remedy to prevent these dangerous symptoms.

Take of tamarinds, half an ounce; the leaves of sena, Chap. 3.
two drams; rhubarb, one dram and a half; boil
them together in enough water to leave three ounces of
strained liquor, in which dissolve manna and solutive
syrup of roses, of each, an ounce: mix them together
for a purging potion, to be taken in the morning early. A purging draught.

I commonly prefer this draught to an electuary made with a small quantity of *rhubarb*; for tho' this root be exhibited to evacuate choler and acrimonious humours, yet unless a proper quantity of *manna* or *solutive syrup of roses* be mixed with it to quicken its operation, it avails little in curing a dysentery. And because it is certain that the gentlest purgatives do sometimes increase the gripings, and occasion a general depression and disorder of the spirits, by the adventitious commotion they raise in the blood and humours during their operation, I therefore commonly give an opiate earlier than is usual after purging, *viz.* at any hour in the afternoon, provided it seems to have done working, in order to quiet the disturbance I have raised. I repeat the purgative twice more, interposing a day between each potion, and exhibit an opiate after every purge, at the time above-mentioned; and direct it to be repeated morning and night on the intermediate days, in order to diminish the violence of the symptoms, and obtain a respite whilst I am employed in evacuating the peccant humour. The opiate I chiefly used was liquid *laudanum*, in the quantity of sixteen or eighteen drops in any cordial water for a dose.

10. After bleeding and purging once I allowed some *Cardiacs* mild cardiac to be taken between whiles, throughout when to be given. the course of the disease, as *plague water*, *compound scordium water*, and the like, *e. g.*

Take of the distilled waters of black cherries and straw-berries, of each, three ounces; *plague water*, *compound scordium water*, and *small cinnamon water*, of each an ounce; prepared pearl, one dram and half; fine sugar enough to sweeten it, and half a dram of damask rose-water to give it an agreeable taste: mix all together for a julap, of which let the patient take four or five spoonfuls, when faint, or at pleasure. A cordial julap.

But I used these chiefly in aged and phlegmatic persons, in order to raise their spirits in some measure, which are
much

Seēt. 4. much depressed in this disease by the violence of the stools. Their drink was *milk boiled with thrice its quantity of water*, or the *white decoction*, as it is called, made of *burnt hartshorn*, and the *crumb of white bread*, of each *two ounces*, boiled in *three pints of water to two*, and afterwards *sweetened with a sufficient quantity of fine sugar*; and sometimes *posset drink*, or, where the loss of spirits required it, they drank cold for their common drink a liquor made by boiling *half a pint of canary*, and a *quart of spring water together*. Their diet was sometimes *panada*, and sometimes *broth made of lean mutton (n)*. I kept the aged more in bed, and allowed them a freer use of any cordial water they had been accustomed to, than was proper for children, or young persons. This method exceeded all those I had hitherto experienced in conquering this disease, which generally yielded to the third purge.

The proper diet and liquors

How to be treated when it does not yield to these means.

II. But if it proved so obstinate as not to give way to this treatment, I gave the former opiate every morning and evening, till it went quite off; and the more effectually to conquer it, I have ventured to give a larger dose of *laudanum*, than that above specified, *viz.* twenty five drops every eight hours, if the former dose proved too weak to stop the flux (o). I likewise ordered a glyster made of *half a pint of milk*, and *an ounce and half of Venice treacle*, to be injected every day, which is indeed an admirable remedy in all kinds of loosenesses. Nor indeed have I hitherto found the least inconvenience from so frequent a repetition of opiates, (whatever mischief unexperienced persons groundlessly apprehend) tho' I have known several who have taken them every day, for some weeks running, when the disease prov'd

(n) Beer is prejudicial here; every thing should be drank warm, and, towards the conclusion of the disease, a glass of wine by itself, or mixed with water, as the stomach will bear it, is proper both to raise the spirits, and strengthen the stomach and bowels. The diet may be nourishing broths acidulated with lemon juice, sago, rice-gruel, or milk, mealy substances, salop, and the like.

(o) When the strength is much exhausted in a dysentery, or looseness, by the frequent discharges accompanying these distempers, the patient is cachectic and consumptive, a hectic heat, suffocation, grief, and wandering pains in the limbs succeed, the evacuation is to be check'd, strengthening glysters often injected, strengthening topics applied to the stomach and abdomen, and proper internals exhibited at the same time to strengthen all the parts.

inveterate.

inveterate. But it must be noted here, that when the flux amounts only to a simple looseness, omitting bleed- ing and strong purging, it will suffice to give *half a dram of rhubarb*, more or less in proportion to the strength of the patient, every morning, *made into a bolus, with a sufficient quantity of diascordium, adding to it two drops of oil of cinnamon*; and exhibiting an opiate the following evening, *e. g.*

Chap. 3.

The cure of a looseness.

Take of small cinnamon water, one ounce; liquid laudanum fourteen drops: mix them together.

A paregoric draught

In the mean time use the diet above specified in the cure of the dysentery, and inject the glysters there commended every day, if there is occasion.—But this by way of digression.

12. Now to evince the excellence of the method here delivered by a single instance; for I will not trouble the reader unnecessarily with many: The rev. Mr *Belke*, chaplain to the earl of *St Albans*, being seized with a violent dysentery, during this constitution, sent for me to attend him, and was recovered by this method.

An instance of the dysentery cured by this method.

13. Children affected with this disease are to be treated in the same manner, but the quantity of blood to be taken away, and the doses both of the purgative and opiate, must be diminished in proportion to their age, so that, for instance, two drops of liquid *laudanum* is a sufficient dose for a child of a year old.

Children how to be treated in this disease

14. The liquid *laudanum*, which I constantly use, as above intimated, is prepared in the following simple manner.

Our author's liquid laudanum described.

Take of Spanish wine, one pint; opium, two ounces; saffron, one ounce; cinnamon and cloves, reduced to powder, of each, one dram: infuse them together in a bath-heat for two or three days, till the tincture becomes of a due consistence, and after straining it off set it by for use (p).

I do

(p) It is surprizing, that none of the pharmaceutical writers take any notice of the defects of *Sydenham's* liquid laudanum; yet it is certain that, after it has been kept for some time, about one-fourth part of the opium contained in it is lost in a gross sediment. This loss is attended with great inconvenience; for during the precipitation, the laudanum is growing always weaker, so that newly prepared laudanum is, perhaps, a fourth part stronger than the same laudanum when it has stood for any time. To remedy this, brandy has been employed in some shops instead of wine; but the laudanum, thus prepared, loses much

Sect. 4. I do not indeed judge that this preparation is to be preferred to the solid *laudanum* of the shops on account of its peculiar virtues, but I gave it the preference for its more convenient form, and the greater certainty of dosing it, as it may be dropt into wine, a distilled water, or any other liquor. And here I cannot forbear mentioning with gratitude the goodness of the Supreme Being, who has supplied afflicted mankind with opiates for their relief; no other remedy being equally powerful to overcome a great number of diseases, or to eradicate them effectually. And notwithstanding there are persons who endeavour to persuade the credulous, that almost all the virtues of opiates in general, and of opium in particular, chiefly depend on their artful preparation of them, yet whoever puts it to the test of experience, and uses the simple juice, as frequently and as cautiously as any of its preparations, will certainly find very little difference between them, and be convinced that the wonderful effects of opium are owing to the native goodness and excellency of the plant that affords it, and not to the dexterity of the artist. Moreover, this medicine is so necessary an instrument in the hands of a skilful person, that the art of physic would be defective and imperfect without it; and whoever is thoroughly acquainted with its virtues, and the manner of using it, will perform greater the same proportion of opium, in time, as the other, which forms in a crust towards its surface all round the glass. By mixing wine and brandy in equal parts, as here directed, both inconveniencies are prevented, the tincture parting with so little opium either way, as to keep always an equal strength: it would, however, be convenient to increase the quantity of the menstruum, that the dose might be more easily ascertained, according to the observation in *Pharm. Reform.* p. 121. The college have very justly thrown out the trifling quantity of the two spices, which could have no other effect than to absorb some of the scanty menstruum.—Several tinctures of opium may be seen in *Pract. Chem.* (p. 342. & seq.) one in particular (p. 345.) not liable to objections usually form'd against most of the preparations of this kind, with regard to the uncertainty of the dose; for in that, it is so contrived as to be determined by weight.

Opium as effectual as any of its preparations.

Lewis's Edinb. Dispensatory, p. 136.

—To confess the truth (as one says) it would be no misfortune to practice if all the tinctures of opium and laudanums were omitted; for crude opium, without any previous preparation, answers all intentions much better, and the dose of this is more easily ascertained. *Boerhaave* asserts, that opium dissolved in water is the best, the next is that dissolved in wine, and the next in spirit of wine, but always the worse, the higher the spirit.

things

things than might reasonably be expected from the use of any single medicine. For it must certainly argue unskilfulness, and a very slender knowledge of its virtues, to understand only to apply it in order to procure sleep, ease pain, and check a looseness, since it may be suited to several other purposes, and is indeed a most excellent cardiac, not to say the only one hitherto discovered (q).

Chap. 3.

An excellent cordial.

15. The dysentery required in general to be treated in this manner. But it must be observed that this dysentery was of a more spirituous and subtile nature the first year it arose, than that of the subsequent years, and therefore yielded less readily to purgatives, than to those medicines that diluted and cooled the blood, as well as the sharp humours separated from it into the intestinal duct. And therefore during the first *autumn* wherein the dry gripes and dysentery prevailed, I always used the following method with success for both, till colder weather succeeded, when I found it less effectual, even in the same year; and in the following years, when the disease had lost much of its subtilty, and proved more humoural, it availed not at all.

The dysentery in the beginning of this constitution, how best treated.

16. I proceeded in this manner: if the patient was young and feverish, I directed bleeding in the arm, and an hour or two after a large quantity of liquor to be taken, by way of diluting, according to the method I practised in the *cholera morbus*, except that here, instead of chicken water, or posset drink, I substituted whey to be drank cold in the same quantity as in that disease, but ordered the glysters to be injected warm, without the addition of sugar, or any other ingredient. I always found the gripes and bloody stools go off upon the discharge of the fourth glyster. This business being over, and all the whey evacuated, which if the patient be expeditious takes up only two or three hours, he was immediately put to bed, where he soon fell into a spontaneous sweat (occasioned by the mixture of the whey with the blood) which I ordered to be continued for twenty four hours, but not at all provoked by medicine; allowing him nothing more than warm milk during this time, which he likewise used only for three or

The method specified.

(q) Whether it be the best, or the only cardiac hitherto discovered may well be questioned; but certain it is that surprizing good has been done in hysteric cases, by drops made of compound spirit of lavender, tincture of castor, and our author's liquid laudanum, now called by the college, *Thebaic tincture*.—

Sect. 4. four days after he left his bed. If a relapse happens, either from rising too soon, or leaving off the milk diet too soon, the same process must be repeated. Now if this method be certain and speedy, no judicious person will reject it, because it does not come recommended with a pompous multiplicity of remedies.

Cured by
the same
method in
Africa.

17. That a fever, attended with such symptoms, as we have enumerated above, happens in those countries, and at those times, wherein the dysentery prevails epidemically, and that the method of cure here delivered is agreeable thereto, is still further confirmed by the testimony of *Dr. Butler*, who accompanied his excellency *Henry Howard* ambassador from his *Britannic* majesty to the emperor of *Morocco*, in *Africa*. This gentleman assured me that the dysentery raged at that time epidemically in that kingdom, as it always does; and that the fever accompanying it resembled the fever above described, which he treated according to our method, with constant success, both at *Tangiers* and other places, whether the patients were *Moors* or *Englishmen*. Now neither of us was obliged to the other for this method, but being at so vast a distance we both casually fell upon the same. And he also informed me that the method of diluting plentifully in the dysentery succeeded admirably in those parts; and indeed I conceive it reasonable that this method should be attended with greater success in that hot climate than in *England*.

An instance of
its usefulness.

18. In the first autumn wherein this constitution prevailed, *Dr. Cox* being seized with a very acute dysentery, by my advice, followed the abovementioned method, whereby he was safely and expeditiously cured. For after the discharge of the fourth glyster, at which time I happened to be with him, the gripes and bloody stools vanished, and there was occasion for nothing further to complete the cure, except keeping his bed for the time above specified, and using a milk diet. And this gentleman afterwards recovered several by the same method at the close of autumn; but the following year, making trial of it again, he found it fail him.

How to be
treated
when it
proves
lasting.

19. We have already taken notice that when this disease runs on to a great length, it often affects all the intestines gradually downwards, till at length it fixes in the *rectum*, with a continual inclination to go to stool, whereby only a *mucus* tinged with blood is discharged.

In

In this case I conceive it would be useles to attempt the cure, either (1) by any of the abovementioned methods; (2) by *detergent, agglutinant, or astringent glysters*, which are ordinarily injected according to the different states of the supposed ulcer; or (3) by *fomentations, baths, fumigations, and suppositories*, suited to the same purposes. For it is apparent that this disorder does not proceed from an ulcer of the *rectum*, but rather from this, that in proportion as the intestines recover their tone, they deposite the remains of the morbific matter in this gut, which being continually irritated thereby, discharges part of the mucous matter at every stool wherewith the inside of the intestines is naturally covered. For this reason the part affected must be strengthened to expel the small remains of the morbific matter, as the other intestines have already done. And this purpose is only answered by such medicines as strengthen the body in general; for the application of any kind of topic to the part affected, being incommodious, will rather debilitate than strengthen it (r). The disease therefore must be borne till the strength can be recovered by a restorative diet, and the free use of some particularly grateful cordial liquor; and then the tenesmus will go off spontaneously in the same degree as the strength returns.

Topics
why not
to be ap-
plied.

20. It sometimes happens, tho' very seldom, that a dysentery ill treated in the beginning afflicts a particular person for several years, the whole mass of blood having obtained a kind of dysenteric disposition, whence the bowels are continually supplied with hot and acrimonious humours, whilst the patient in the mean time continues pretty capable of following his business. I met with an instance of this lately in a woman, who was perpetually afflicted with this disease, during the three last years of this constitution: and as she had tried abundance of medicines before applying to me, omitting other remedies, I only directed bleeding, and was encouraged to repeat it frequently, at considerable intervals, as well from the colour of the blood, which resembled that of

It some-
times con-
tinues for
several
years.

(r) The *tenesmus* is an exceeding troublesome and painful symptom, but may be greatly relieved by fomenting the *anus* with a *decoction of flowers of elder and camomile in milk*, applying the *mucilage of fleabane seed or quince seed, a mixture of oil of almonds, yolk of egg, and saffron thereto*; or receiving the warm vapour of an *emollient decoction of the leaves of marsh mallows, flowers of elder, fenugreek seed, &c. in milk*.

Sect. 4. pleuritics, as from the great relief the patient obtained by every bleeding; by which means she at length recovered her former health.

When not epidemic yields to *laudanum* only.

21. Before I finish, this particular is to be remarked, viz. that tho' in those years, wherein the dysentery rag'd so epidemically, the abovementioned evacuations were absolutely necessary to be made before having recourse to *laudanum*, yet in any constitution, which has a less tendency to this disease, they may safely be omitted, and the cure completed by the shorter method, namely by exhibiting *laudanum* alone, in the manner already delivered.—And let this suffice for the dysentery (s).

C H A P.

(s) The extract of logwood given in the quantity of two scruples or a dram for a dose, and frequently repeated, or a strong decoction of the same in a proper dose, is a noble remedy in this obstinate disease, for it has this peculiar good property, that it is astringent, yet not inflammatory; and of course may be very advantageously used when the distemper is accompanied with inflammation; in which case, however, previous evacuations are more particularly necessary, and cannot safely be omitted.

The judicious *Heister* gives us some cautions and observations, relating to this distemper, which I have translated, and added here to supply what is wanting in our author concerning it.

I. This disorder is never without danger, and therefore never to be lightly regarded, as many do, especially at first, esteeming it a slight distemper, and so neglecting it, or rather increasing it by an improper regimen.

II. It does not easily yield, and nature alone contributes little to its cure; but the superiority of art, and the power of the physician over nature eminently appears herein, because, by evacuating and correcting the noxious and acrid matter in time, as the cause of the disease, he for the most part happily cures it.

III. All that die of this disease perish by a mortification of the bowels; which therefore must by all means be prevented.

IV. Astringents, especially earthy and chalybeate substances, *Pontac* wine, and other things of the like nature do hurt in the beginning, and ought, for this reason, to be avoided; for by retaining the vitiated humours of the bowels, they occasion inflammations, pains and ulcers thereof, and likewise fevers, aphthæ, and other disorders, and even death. But towards the end they may be conveniently given to strengthen the parts; especially *salop*, *Indian bark*, (by some called bark of *Eleutheria*) and *Japan earth*, which are the best and safest strengtheners in this disease.

V. On the contrary, diluting liquids drank plentifully and warm are often so very beneficial in the beginning of the distemper, that several have recovered with little other assistance, along with a proper regimen.—Such are milk and water, whey,

Of the continued Fever of part of the Year
1669, and the Years 1670, 1671, 1672.

1. **A**T the same time the *dysentery* raged a *fever* arose, which much resembled, and often accompanied this disease. It not only attacked such as were afflicted with the dysentery, but those likewise who remained wholly free from it, unless that sometimes, tho' very rarely, the patient had slight gripings, sometimes with, and at others without a looseness; for it always had the same apparent causes with the dysentery, and was attended also with the same symptoms as the fevers of those who had the dysentery; so that if we except the evacuation by stool in the dysentery, and the symptoms thereon necessarily depending, this fever should seem to be wholly of the same nature with that disease. And from henceforward, through the course of this constitution, it underwent the same change of symptoms, with respect to its increase, state, and declension, as generally happened in the dysentery. I call it, therefore, the *dysenteric fever*.

Origin of
the fever
of this con-
stitution.

2. This fever, as we have said, sometimes began (1) with mild gripings, especially in the first years of its appearance, or they came on afterwards, but frequently none at all attended; (2) the sweats, which, as

Its sym-
ptoms.

whey, butter-milk, barley-water, with gum arabick, and the like.

VI. All salts are hurtful in excoriations of the bowels, and all kinds of minerals are of little use; but vegetables, and some productions of the animal kind are preferable here.

VII. All violent purgatives and aloetics I know from my own experience do no service.

VIII. Resinous gums, *viz.* mastich, olibanum, or balsamics, as *Peruvian* balsam, turpentine, &c. which have formerly been recommended by several physicians to stop the flux, and sudorifics, especially of the heating kind, do no great good.

IX. Toasted rhubarb, so much commended by not a few in this disease, proves less beneficial than its powder and tincture; its virtues being rather lessened than increased by this treatment of it.

X. The effect of opiates must be diligently observed, and according as they do good, or the contrary, be administered, or omitted.

Sect. 4. we observed above, were very copious in the fever of the preceding constitution, were unfrequent and moderate in this; but (3) the pain in the head was more violent here; (4) the tongue, tho' it was white and moist as in the other fever, was covered beside with a thick fur; (5) this fever seldom went off by a spitting, as the other usually did; (6) it was more subject to generate *Aphthæ* in the declension, than either the former, or any other fever I had hitherto met with: for both this and the fever that succeeded the dysentery, in the decline, generally deposited a vitiated and acrid matter in the mouth and throat, whence this symptom arose in such as had been much exhausted by the inveteracy of the disease, and further debilitated by an over-hot regimen. In the same manner also were those *Aphthæ* generated, which happened at any time in stubborn dysenteries, joined with a fever; especially if, besides using an hot regimen, the discharge by stools had been stopped by astringents, before the cause or fuel of the disease was expelled the veins by bleeding and purging.

3. These were the most certain signs of this fever, for the other symptoms varied every year, according to the manifest qualities of the air at certain times, and also according to the progress and different states of the dysentery. But that these particulars may be better understood, since by this contrivance especially nature manifests her superior power in the production of epidemic diseases, we shall make a closer scrutiny into this matter. It should therefore be observed that, tho' the manifest qualities of the air may not make so strong an impression upon a particular constitution, as to be the productive causes of the epidemic diseases which are properly referred thereto, as these arise from some latent and inexplicable disposition thereof, yet they have a power over them for a time, and hence epidemics are admitted or excluded, as the manifest qualities of the air favour or oppose them. But the universal constitution remains precisely the same, whether these promote, or in some measure retard it.

Epidemics
how affect-
ed by the
manifest
qualities of
the air.

4. Hence also it is that when various epidemics happen in the same constitution, some particular disease shews itself chiefly in the season assigned it by the sensible qualities of the air; and at length yields to some other epidemic, which the different qualities of the sub-

sequent

frequent season occasion. Hence it happens that the stationary fever, belonging to the epidemic of that year, of whatever kind it be, rages most violently in *July*, at the beginning whereof it attacks abundance of persons at once, but upon the approach of *autumn* abates considerably, and yields to the then reigning grand epidemic, which gives its name to the year; as every year sufficiently shews. For the body being heated by the preceding summer, the fevers, which are peculiar to the general constitution, easily attack at that time, but upon the coming in of *autumn* the grand epidemic again prevails, and these go off entirely.

Chap. 4.

5. But as the fevers arising in this month should be referred to the sensible qualities of the air, so also the various symptoms, which are quite foreign to their nature, in as much as they depend upon such a general constitution, are derived from the manifest qualities of the air happening in the same month. Hence it is, that in those years wherein these fevers seize abundance of persons in this month, they are attended with a variety of new symptoms, besides those which are peculiar to them as they proceed from the general constitution; and yet they still continue the same, tho' by the unskilful they are esteemed every year as new fevers, on account of the diversity of their concomitants. But these more peculiar symptoms continue only a few weeks, and the remaining part of the year only the proper symptoms appear, which accompany them as *Stationary* fevers of such a particular constitution.

6. This clearly appeared in other fevers, but chiefly in the dysenteric fever of *July* 1671, and 1672; the former of which at the decline was constantly attended with extreme sickness, a vomiting of green choler, and a great tendency to a looseness; and the latter with a pain in the muscular parts of the body, especially in the limbs, resembling a rheumatism, and also an inflammation of the throat, but milder than in a quinsy: yet both these met in the same specific fever, and both required the same treatment, for they differed only with respect to the sensible qualities of the air that prevailed at the time when these symptoms arose. But the sudden and unexpected rise of these fevers about the beginning of this month, and the new appearance of their peculiar symptoms for a time, tho' they nei-

Instanced
in the dy-
senteric
fever.

ther

Sect. 4.  ther differed in kind, nor in the method of cure required, from the fever that run thro' the whole year: these particulars, I say, clearly shew how difficult it is universally to ascertain the species of a fever from its concomitant signs; tho' it may be sufficiently known by carefully attending to other diseases arising in the same year, and also to the peculiar symptoms of the fever, so far as they depend upon a particular kind of evacuation. A consideration likewise of the method or medicines to which it readily yields, greatly conduces towards discovering the species of the fever.

The species of a fever how best discoverable.

7. As to the other differences of the concomitant symptoms of *stationary* fevers, they only regard the different times of the constitution; and upon this account are either violent or moderate as the symptoms of other epidemics, to which they belong, are either increased or mitigated.

8. But to resume our subject: this fever, which, as we have already observed, begun with the dysentery, prevailed equally with it, except that it went off for a little time, whilst the other epidemics of these years prevailed; yet it continued throughout this constitution, sometimes attacking more, and at others fewer persons.

The cure of the fever of this constitution.

9. With respect to the cure of this fever; having observed, as we said before, that the symptoms of that fever which affected abundance of those who had the dysentery, were manifestly the same with those which accompanied the solitary fevers of the current year, I judged it proper to attempt the cure by imitating in some measure the evacuation, which nature commonly uses in order to expel the sharp and corrosive matter, occasioning both the dysentery and the fever succeeding thereupon. And therefore I endeavoured to cure this fever by the same method, both as to bleeding and repeated purging, which we have deduced more at large in treating of the cure of the dysentery; only I found that opiates, exhibited on the intermediate days, not only did no service, but proved detrimental, by detaining the matter which ought to have been discharged by purging, which happened otherwise in the dysentery. On the first days of the illness the patient lived on water-gruel, barley-broth, panada and the like for diet, and drank warm small-beer for his common drink; but

but after purging once or twice, it was needless to forbid chicken and the like food of easy digestion; as this method of cure by purging indulges the use of those things, which cannot be allowed if a different one be practised. The third purge, interposing a day between each, generally terminated the disease, but sometimes further purging was required. When the patient continued weak after the fever was gone off, and recovered slowly, which often happened in hysteric women, I endeavoured to strengthen them, and repair the loss of spirits by giving a small dose of *laudanum*; but I seldom repeated this medicine, and never prescribed it till two or three days after the last purge. But nothing proved so effectual to recover the strength, and cheer the spirits, as the free use of the air immediately after the fever vanished.

10. I received the first hint of this method of practice from the following case. In the beginning of this constitution, whilst I was solicitously endeavouring to discover the nature of this new fever, I was called to a young woman who was seized therewith, and had also a very violent pain in the fore-part of the head, and the other symptoms, which, as we said, accompanied the dysenteric fever. Upon enquiring in what manner, and when the fever first seized her, she told me that she had had the epidemic dysentery a fortnight before, which prevailed very generally at that time, and that as soon as it went off, either spontaneously, or by the use of medicine, this fever with the pain in the head succeeded. Hence I conceived it would be proper, for both, to substitute another similar evacuation in place of the dysentery, upon the stoppage of which the fever arose; and accordingly procured it by the method above recommended, to which indeed the fevers of this constitution readily yielded. For I was ever of opinion that success alone is not a sufficient proof of the excellency of a method of cure in acute diseases; since some are recovered by the imprudent procedure of unskilful women, but that there was further required, that the distemper should be easily conquered, and yield, as it were, conformably to its own nature (*t*).—But this by the way.

11. In

(*t*) General success in the cure of a particular distemper is no mean proof of the judgment of the practitioner, and the excellency

Sect. 4. **11.** In 1672, at the beginning of *June*, I was sent for by the earl of *Salisbury*, who had this fever, accompanied with gripings and costiveness; and he was recovered by the method proposed, which was the only one I had occasion for whilst this fever continued.

A *stupor* in this fever how caus'd **12.** In young persons, and sometimes in those who were a little more advanced in years, this fever at times seized the head, so that they became delirious, yet without raving, as those who grow light-headed in other fevers do; but were affected with a kind of *stupor*, nearly resembling a *carus*. This symptom chiefly happened in such as unadvisedly exerted their utmost endeavours to promote sweat at the beginning of the disease. I was not so happy at that time as to be able to relieve such as were attacked with this symptom, tho' I left no method untried, and had recourse to all the medicines hitherto noted for this purpose (*u*).--And let these particulars suffice for the fever of this constitution.

CHAP. V.

Of the Measles of 1670.

The rise and progress of the measles of this constitution. **I.** IN the beginning of *January*, 1670, the *measles* appeared as is usual, and increased daily till the approach of the vernal *equinox*, when it came to its height; after which it abated in the same gradual manner, and went quite off in *July* following. I intend to

cellency of the method employed; the easier indeed the method is, the more eminently does the skill of the physician appear, and the more universally beneficial it is likely to prove.

(*u*) It were to be wished our author had particularly specified the method and medicines, which were unsuccessfully used to conquer this symptom; the failure of great men being not less instructive, in general, than their success, as it affords several useful intimations how to proceed in the like cases with greater safety and certainty. As the practice of blistering was not then established, and it appears from the forms of medicines directed by our author, that he rarely administered those of the warm, and volatile kind, it is highly probable that both these helps were either entirely omitted, or not used so freely as the case should seem to require. In the present practice very ill-conditioned *stupors* are frequently removed by blistering freely, and exhibiting warm nervous medicines often in a moderate quantity; such as the *volatile salt of hart's-horn and amber, castor, the aromatic species, camphire, saffron, Virginian snake-root, compound spirit of lavender, volatile aromatic spirit, &c.*
deliver

deliver an accurate history of this sort, so far as I was then enabled to observe it, because it seemed to be the most perfect in its kind of all those I have hitherto met with. Chap. 5.

2. This disease arises and terminates at the times above specified. It chiefly attacks children, and especially all those who live under the same roof. (1) It comes on with a chillness and shivering, and an inequality of heat and cold, which succeeded alternately, during the first day; (2) the second day these terminate in a perfect fever, attended with (3) vehement sickness, (4) thirst, (5) loss of appetite, (6) the tongue white, but not dry, (7) a slight cough, (8) heaviness of the head and eyes, with continual drowsiness; (9) an humour also generally distils from the nose and eyes, and this effusion of tears is a most certain sign of the approach of the measles; whereto must be added, as a no less certain sign (10) that tho' this disease mostly shews itself in the face, by a kind of eruptions, yet, instead of these, large red spots, not rising above the surface of the skin, rather appear in the breast; (11) the patient sneezes as if he had taken cold, (12) the eyelids swell a little before the eruption, (13) he vomits, (14) but is more frequently affected with a looseness, attended with greenish stools: but this happens chiefly in children, during dentition, who are also more fretful in this distemper than ordinary. The symptoms usually grow more violent till the *fourth* day, at which time generally little red spots, like flea-bites, begin to appear in the forehead and other parts of the face; which, being increased in number and bigness, run together, and form large red spots in the face, of different figures; but sometimes the eruption is deferred till the *fifth* day. These red spots are composed of small red pimples, seated near each other, and rising a little higher than the surface of the skin, so that they may be felt upon pressing them lightly with the finger, tho' they can scarce be seen. From the face, where only they first appear, these spots extend by degrees to the breast, belly, thighs and legs; but they affect the trunk and limbs with a redness only, without perceptibly rising above the skin. Its symptoms enumerated.

3. The symptoms do not abate here upon the eruption, as in the small-pox; yet I never found the vomiting continue afterwards, but the cough and fever grow more They grow more violent till the fourth day. And do not abate upon the eruption.

Sect. 4. more violent, the difficulty of breathing, the weakness of, and defluxion upon the eyes, constant drowsiness, and loss of appetite, persisting in their former state. On the *sixth* day, or thereabouts, the eruptions begin to dry, and the skin separates, whence the forehead and face grow rough; but in the other parts of the body the spots appear very large and red. About the *eighth* day those in the face vanish, and very few appear in the rest of the body; but on the *ninth* day they disappear entirely, and the face, limbs, and sometimes the whole body seem as if they were sprinkled over with bran, the particles of the broken skin being raised up a little, and scarce cohering, so that as the disease is going off, they fall from all parts of the body like scales.

The disease usually terminates on the eighth day.

4. The measles therefore generally disappears on the *eighth* day (*x*), when the vulgar, deceived by the term of the duration of the small-pox, affirm, that the eruptions are struck in; tho' in reality they have run thro' the course assigned them by nature, and they suspect that the symptoms which succeed upon their going off, are occasioned by their striking in too soon. For it is observable that the fever and difficulty of breathing increase at this time, and the cough becomes more troublesome, so that the patient can get no rest in the day, and very little in the night. Children chiefly are subject to this bad symptom, which comes on at the declension of the disease, especially if an heating regimen, or hot medicines have been used to promote the eruption; whence arises a peripneumony, which destroys greater numbers than the small-pox or any of its concomitant symptoms; yet notwithstanding, if this disease be skilfully treated it is no ways dangerous. These bad symptoms are likewise often followed by a looseness, which either immediately succeeds the disease, or continues se-

(*x*) Here we are told that the measles generally disappears on the *eighth* day, and just above that the eruptions disappear entirely on the *ninth* day, which may seem contradictory assertions; but the truth is that the eruptions vanish in *four* or *six* days from their first appearance in most subjects, unless the disease happens to be of a very malignant kind. Those who die in the measles ordinarily perish on the *ninth* day by a suffocation. The dangerous symptoms in this distemper are great loss of strength, coldness of the extremities, restlessness, violent vomiting, a continual cough and looseness, difficult deglutition, a *delirium*, convulsions, and profuse sweats, especially in persons advancing in years.

veral weeks after the disease and all its symptoms are gone off, with great danger to the patient, by reason of the continual waste of spirits hence arising. And sometimes also, after using an exceeding hot regimen, the eruptions turn livid, and then black; but this happens only in grown persons, who are irrecoverably lost upon the first appearance of the blackness, unless they be immediately relieved by bleeding and a cooler regimen.

5. As the measles in its nature nearly resembles the small-pox, so does it likewise agree pretty much therewith in the method of cure which it requires: hot medicines and a hot regimen are very dangerous; tho' they are frequently used by unskilful nurses to drive the disease from the heart. The following method succeeded best with me. I confined the patient to his bed for only two or three days after the eruption, that the blood might gently breathe out the inflam'd and noxious particles, that are easily separable, through the pores, in a manner suitable to the nature of the disease; and allowed no more clothes nor a larger fire, than he accustomed himself to when in health. I forbid all flesh meats, and permitted water-gruel, barley-broth, and the like, and sometimes a roast apple, for diet, and for drink either small-beer, or milk boiled with thrice its quantity of water. To relieve the cough, which almost always attends this disease, I ordered a draught of some *pectoral decoction* to be taken between whiles, with a proper *linctus*. But I chiefly observed to give *diacodium* every night, the distemper throughout, *e. g.*

Requires nearly the same method of cure with the small-pox. The method described.

Take of the *pectoral decoction*, a pint and half; syrup of violets and maiden-hair, each an ounce and half; mix them together for an *apozem*, to be taken in the quantity of three or four ounces, three or four times a day. A pectoral apozem.

Take of oil of sweet almonds, two ounces; syrup of violets and maiden-hair, each an ounce; fine sugar enough to make them into a *linctus*, to be taken often in a small quantity, especially when the cough is troublesome. A pectoral linctus.

Take of black-cherry water, three ounces; syrup of white poppies, an ounce; mix them together for a draught. A quieting draught.
draught, to be taken every night.

In children the dose of the pectorals and opiate must be diminished in proportion to their age (*y*). 6. This

(*y*) With respect to the method of cure, it may not be amiss to give a few further directions taken from *Hoffman*. If

Sect. 4.

Its excellence.

6. This method seldom fails of curing, besides being preventive of every other symptom, which is not the necessary and unavoidable attendant of the disease: the cough is the most troublesome one, which however is nothing dangerous till the disease be gone off; after which, if it should continue a week or a fortnight, it may be easily cured by the use of the open air, along with proper pectorals; and indeed it generally abates by degrees spontaneously, and at length ceases (z).

7. But

If the first passages be over-charged with indigested matters, a gentle emetic is proper. If the children have worms, a proper purge is requisite in the beginning. Bleeding is necessary in grown persons, if there be a fulness of blood.

Heating medicines and a hot regimen render the morbid matter more ill-conditioned and subtle, increase the heat and anxiety, and exhaust the strength: and nitrous and over-cooling medicines, especially in children, retard the eruption, and the matter being retained in the habit disposes to a mortification.

When the measles attacks hysteric women, or happens at the time of the menstrual discharge, it is often accompanied with difficulty of breathing, a contraction of the *oesophagus*, great anxiety, &c. whence the eruption is retarded. In this case the eruption is not to be promoted by warm medicines: but we are rather to have recourse to such as remedy the spasms, as glysters made of *carminatives* and *anodynes*, mild *diaphoretics*, mixt with a small proportion of *castor* and *nitre*; and sometimes *bleeding* is to be used.

The cough, which is the most troublesome symptom, is best relieved by fresh drawn *oil of sweet almonds*, mixt with *syrup of maiden-hair* or *marsh mallows*, given frequently in the quantity of half a spoonful in water gruel.

The looseness is neither to be much encouraged, nor hastily checked; as it often proves rather beneficial than detrimental, by terminating the disease, and carrying off abundance of impurities: *smoothing glysters*, to soften the acrimonious humours lodged in the intestines, are safest here.

In hæmorrhages happening in this disease powerful *astringents* and *opiates* are bad. The following mixture hath been often used with success.

Take of black cherry water, six ounces; treacle water, three drams; diaphoretic antimony, and diascordium, of each, half a dram; spirit of vitriol, twenty drops; syrup of red poppies, two drams; mix them together.—Give two or three spoonfuls every three hours.

(z) Here is no mention made of purging after the disease is gone off, the omission whereof notwithstanding has been frequently found to occasion very dangerous and stubborn disorders; as internal abscesses, malignant ulcers, caries of the bones, a consumption, dropsy, blindness, &c. Let it be remembered therefore that purging is almost equally necessary after this distemper, as after the small-pox.

7. But if, by using cardiacs and too hot a regimen after the departure of the disease, the patient's life be endangered (which is a very common thing) by the violent fever, difficulty of breathing, and other symptoms that usually afflict such as have a peripneumony, I have with great success ordered even the tenderest infants to be bled in the arm, in such quantity as their age and strength indicated. And sometimes also, when the disease has been urgent, I have not feared to repeat the operation. And in reality, by bleeding, I have snatched abundance of children from imminent death. This disorder attacks children upon the departure of the measles, and proves so fatal, that it may justly be

Chap. 5.

The mischief ensuing from a hot regimen and cardiacs after the disease is gone off, how remedied.

As this pestilential disease is of kin to the small-pox, (says Dr Mead) it requires a management not very different from the same which we have recommended in that distemper. Blood must be taken away in the beginning, according to the age and strength of the patient. It is best, if possible, to do this before the eruption of the pustules; but, if they are already come out, it must, however, be taken away. For the greatest danger is an inflammation of the lungs, which cannot be prevented too soon. Therefore in the height of the fever also, although bleeding was not neglected in the beginning, yet it is sometimes necessary to repeat it. And in the last place, at the end of the disease, when the skin is now growing dry, and the scales falling off, it will be a great error not to open a vein again; that by this means a flux of humours upon the breast and intestines, and the symptoms of a hectic fever and consumption may be happily prevented.

The diet ought to be the same as is prescribed in the small-pox; taking particular care that the body be kept lax rather than bound up, through the whole course of the distemper.

As to remedies; to those cooling ones which are directed in the other disease, must be added such as abate the cough, and help expectoration; particularly an *oily linetus*, and the *pectoral infusion*, of which, with the addition of a little *nitre*, the patient may drink frequently.

Dr Sydenham gave *diacodion*, even on the first days of the illness, but I think he was not cautious enough in this point; for all medicines of this kind thicken the humours, streighten the breath, and retard the eruption of the pustules. Therefore, during the increase of the distemper, they are to be used very sparingly; but at the latter end they are of great service: in as much as there is then a necessity to quiet the cough, which, from the sharp defluxion upon the lungs, threatens a hectic fever and consumption. But in the mean time, gentle purges are to be given at due intervals. *Milk*, especially that of *asses*, must be drank. Change of air is also necessary: and lastly, exercise, suitable to the strength of the patient, is to be daily enjoined. *Stack's translation of the Doctor's discourse on the Small-pox*, p. 102. & seq.

M

esteemed

Sect. 4. esteemed one of the principal ministers of death, destroying greater numbers than the small-pox: nor have I hitherto discovered any other certain method of conquering it. Bleeding also cures the looseness, which, as we said, succeeds the measles (a); for as it arises from the *effluvia* of the inflamed blood, flowing into the intestines (as is likewise usual in the pleurisy, peripneumony, and other diseases caused by inflammation) and irritating them to discharge their contents, this remedy alone will relieve; as it makes a revulsion of those sharp humours, and likewise reduces the blood to a due temper (b).

Bleeding
as safe in
children as
in adults.

8. Nor need any one be surprized at my bleeding young children, since, as far as I have hitherto been able to observe, it may be as safely performed in them as in grown persons. And indeed it is so necessary in the peripneumonic fever abovementioned, and in some other disorders to which children are subject, that there is no curing them without it. For instance, how are children to be relieved without bleeding during dentition, in the convulsions happening to them in the ninth or tenth month, accompanied with a swelling and pain in the gums, whence the nerves are compressed and irrita-

(a) See above, *Par.* 4.

(b) Gentle purging with *rhubarb* should seem adviseable here; and joined with moderate exercise, asses milk, and the use of the open air, will probably effect a cure. *Bleeding* may occasionally be proper, but cannot be said to make a revulsion of sharp humours, which in this case purging seems best adapted to remove.

I have often wondered (says the same excellent writer) why that sagacious and experienced physician (*Sydenham*) whom I have so often mentioned with praise, did not prescribe bleeding in the very beginning of the disease; but neglected this material part of the cure so far, that he only ordered it at the end, when a hot regimen, and too warm medicines, had brought upon the patient a cough and shortness of breath. Especially since he himself takes notice, that the looseness which often follows this fever, and *which*, he says, *arises from the effluvia of the inflamed blood, flowing into the intestines*, is only to be cured by blood-letting. But this great man deserves pardon upon this account, that in those times physicians never attempted to take away blood in those fevers which were attended with any eruptions, particularly in children, who are the most liable to this kind of illness. Their reason was, lest that emptying of the vessels should hinder the coming out of what was to be discharged by the skin. But daily experience shews, that this fear is vain, and that the event is quite contrary to what they imagined. *Stack's translation of the Doctor's discourse on the Small-pox, p. 100. & seq.*

ted, and the fits also proceed? In this case bleeding only is Chap. 6.
 vastly preferable to all the celebrated specifics yet known; }
 some of which prove detrimental by their adventitious
 heat, and whilst they are supposed to cure the disorder
 by some occult quality, increase it by their manifest
 heat, and destroy the patient. Not to mention at pre-
 sent the great relief which bleeding affords in the *hooping-*
cough in children, in which it far exceeds all kinds of
 pectorals.

9. What has been said of the cure of those disorders
 which immediately succeed the measles, may some-
 times also hold good when the disease is at the height,
 provided the symptoms be occasioned by an artificial
 heat; if I may be allowed to use the expression. In
 1670 I attended a maid-servant of lady *Anne Barington*, A case re-
 who had the measles, joined with a fever, difficulty of lated,
 breathing, purple spots over the whole body, and many wherein it
 other dangerous symptoms, all which I ascribed to the did service.
 hot regimen and medicines which had been too freely
 used. I directed bleeding in the arm, and prescribed a
 cooling pectoral ptisan to be taken often, by means of
 which, and a more cooling regimen, the purple spots
 and all the other symptoms went off by degrees.

10. This disease as abovementioned (c), began in *Ja-*
nuary, and increased daily till the approach of the vernal
 equinox, after which it decreased gradually, and totally
 disappeared in *July* following, without returning again
 during the course of years wherein this constitution
 prevailed, except that in the following spring it appeared
 in a very few places.—And let this suffice for the measles.

C H A P. VI.

Of the anomalous or irregular Small-pox of the Years 1670, 1671, and 1672.

1. **T**HE measles, as we said before (d), introduced a The rise
 different sort of *small pox* from that of the pre- and pro-
 ceding constitution, It arose much about the same time gress of a
 as the measles did, namely in the beginning of *January*, new kind
 1670; and tho' it was not so epidemic, it notwith- of small-
pox.

(c) See above, *Par. 1.*

(d) See above, *Chap. 1. Par. 4.*

Sect. 4.  standing accompanied that disease whilst it prevailed, and continued after it went off, as long as this constitution lasted. Nevertheless it yielded to the dysentery which raged in autumn; a season peculiarly disposed to favour it. But in the winter this kind of small-pox returned again, the dysentery being overcome by the cold, which is an enemy to it. In this order did these distempers succeed each other thro' the whole term of years of this constitution, except that in the last *autumn* it prevailed, namely in 1672, the constitution being then in its decline, and slowly promoting the dysentery, which at that time was also declining. The small-pox, contrary to custom, raged also at the same time, and prevailed so equally with the dysentery, that it was not easy to ascertain which of the two diseases attacked greater numbers, but, as far as I could conjecture, the dysentery should seem to have been chiefly prevalent. Moreover this sort of small-pox also, like other epidemics, was very violent in the beginning, and increased daily till it came to the height, after which it decreased by degrees; both with respect to the violence of the symptoms, and the numbers attacked thereby.

2. But to set down its particular signs. I was much surprized upon the rise of this small-pox, when I found that it differed in several considerable symptoms from the kind produced by the preceding constitution, which I had formerly observed with particular attention. At present I shall only treat of the symptoms that differ from those of the other kinds, without taking notice of those it had in common with that sort of small-pox so fully described in the foregoing sheets.

The signs of the distinct kind. 3. The distinct kind of this small-pox differed from the common distinct one of the preceding constitution, only in the following symptoms. (1) The eruptions generally came out on the *third* day, which indeed is usual in the confluent sort, whereas in the distinct kind of the former constitution they appeared not before the *fourth* day; (2) they did not grow so big in the course of the disease, as those of that kind, but (3) were more inflamed, and in the declension, after their suppuration, frequently looked black; (4) sometimes, but very rarely, a spitting happened, as in the confluent kind, tho' the eruptions were very few: whence it appears that the small-pox of this constitution greatly resembled the
confluent

confluent kind, and was attended with a more violent inflammation than is usual in the distinct. Chap. 6.

4. But the confluent sort of this constitution differed from those I had observed in other years in several particulars, which I shall here enumerate. (1) The eruptions sometimes appeared on the *second* day, at others on the *third*, in form of an uniform reddish swelling, covering the whole face, and thicker than an *erysipelas*, nor could any spaces be easily perceived between the eruptions; (2) the rest of the body appeared to be over-spread with an almost infinite number of red, inflamed pustules, joined together in one; (3) in the intermediate spaces whereof, especially in the thighs, little bladders arose, like those occasioned by burns, full of a limpid *serum*, which ran plentifully from them, upon the bursting of the skin; the flesh underneath appearing black, and as if it were gangren'd. But this dreadful symptom happened very rarely, and only in the first month wherein this kind prevailed.

The signs
of the con-
fluent kind

5. Amongst the rest who were thus grievously affected at this time I was sent for, in the beginning of *January* 1670, by Mr *Collins*, a brewer in *St Giles's* parish, to his son, an infant, who had bladders on his thighs as large as a walnut, and full of a transparent *serum*, which afterwards bursting, the flesh underneath appeared as it were quite mortified, and he died soon after; as did all those I had seen attacked with this dreadful symptom.

6. (4) About the *eleventh* day a white shining pellicle extended itself over the reddish swelling in several parts of the face, and by degrees over the whole; (5) soon after it discharged a shining crusty matter, not indeed of a yellow or brown colour (both which were observable in the other kind of small-pox) but of a deep red, like congealed blood, which, as the pustules ripened, grew every day blacker, till at length the whole face appeared as black as soot: (6) and whereas in the other kind of confluent small-pox the patient was in the most danger on the *eleventh* day, which put an end to the lives of the greatest part of those that died; in this sort, unless an extreme hot regimen destroyed him in a shorter time, he generally lived till the *fourteenth*, and sometimes to the *seventeenth* day, after which the danger was over. (7) But it must be noted, that those who had the fatal bladders with the mortification, which happened to some

Sect. 4. in the first month wherein this kind arose, as above related, died in few days after the eruption.

7. (8) The fever, and all the other symptoms, which either preceded or accompanied this sort of the small-pox, were more violent than in the foregoing kind, and it had manifest signs of greater inflammation; (9) the patient was more subject to a spitting; (10) the pustules were considerably more inflamed, and much smaller, so that it was difficult upon their first appearance to distinguish them from an *erysipelas*, or the *measles*, unless that the latter certainly manifested itself by the day of the eruption, and other symptoms, above enumerated in the history of that disease; (11) the scales remained a long time after the eruptions vanished, and left more unseemly scars behind them. It is well worth noting, that throughout the whole course of years which this constitution lasted, wherein the dysentery raged so epidemically, the small-pox, when exasperated by an immoderate hot regimen, sometimes terminated in a dysentery; as I more than once observed.

The *small-pox* became more gentle in the third year. 8. But it is proper to observe that this small-pox was not attended with such fatal symptoms during the whole time of its continuance, for, after having prevailed two years, it began to grow milder in the third year, namely in 1672, and the eruptions, having lost their blackness, grew by degrees yellow, like a honey-comb, which is peculiar to the regular small-pox, during the suppuration of the pustules, so that in the last year of this constitution it proved very mild and gentle, considering its kind. Nevertheless it is manifestly to be referred to a quite different kind, on account (1) of the remarkable smallness of the pustules, (2) the tendency to a salivation, and (3) other concomitant symptoms.

9. Tho' our ignorance of the causes of every specific difference be such, as makes it impossible for us to comprehend wherein this small-pox differs from those produced by the other constitution; yet, to me, it plainly appears, from the several concomitants, that this sort was attended with greater inflammation than the other, and therefore that the whole of the cure consists in giving a greater check to the violent ebullition of the blood. And this is chiefly effected by a temperate regimen, after exhibiting opiates as above directed; e. g. allowing the free use of some liquor that is not heating, but

The method of cure.

but will rather immediately abate the violent heat, which Chap. 6. fatigues and parches the patient more in this than in any other disease, especially during the suppuration of the pustules. The *white decoction* made of *bread and a little burnt hartshorn, boiled in a large proportion of water, and sweetened with sugar* is beneficial here; but *milk boiled with thrice its quantity of water* is generally a more grateful liquor, and better answers the end of cooling; drinking plentifully is not only proper to diminish the extreme heat, which chiefly prevails during the *secondary fever*, but also promotes the salivation, and keeps it up longer than it could be continued, if the patient were over-heated. And, further, I have often observed that cooling liquors, drank plentifully, have succeeded so well, that by means thereof the small-pox, which appeared at the beginning with the worst signs of the confluent kind, hath in the course of the disease been rendered distinct; and the eruptions, which, as they ripened, would otherwise have first discharged a red, and soon after a black matter, have looked very yellow, and, instead of being inflamed and very small, proved of a mild and good kind.

Advantages of drinking cooling liquors plentifully

10. Nor does the menstrual discharge, which frequently happens to women in this disease, at all forbid, but rather encourage the free use of these liquors, especially if it comes at an unusual time. For all the danger here is lest the blood, being too much attenuated by the excessive heat of the disease, should break thro' the vessels wherever it can find a passage, especially when unskillful nurses add oil to the flame, by using a hot regimen, and a decoction of *hartshorn*, with *flowers of marigold*, &c. Now whatever greatly dilutes and cools the blood, inasmuch as it checks this flux, does necessarily, tho' not immediately, tend to preserve the eruptions, and the swelling of the face and hands in their due state; whereas contrariwise heating remedies, notwithstanding they may seem better suited to this purpose, yet, as they promote this discharge, they fall far short of answering the end. And I doubt not but abundance of women have perished by the mistake of such as had the care of them, who apprehending the sinking of the eruptions from this discharge, have endeavoured to prevent it by a hot regimen and cardiacs, by which means the patient hath been cer-

Sect. 4. tainly destroyed; tho' at the same time they solicitously endeavoured to stop the hæmorrhage, and keep the eruptions and swelling at the proper height, by mixing different astringents with the cardiacs.

Exemplified in a case where the menstrual discharge happened during the small-pox. 11. I lately attended a lady, who had this dangerous black small-pox, and tho' I forbid every thing at the beginning that might agitate the blood, yet as she was of a very sanguine complexion, in the flower of her age, and of a lively disposition, and the weather at the same time very warm, she was suddenly seized, on the third day after the eruption, with so copious a menstrual discharge, at an unusual time, that the women about her suspected she had miscarried. Tho' this symptom was very urgent for several days, yet I did not therefore judge that the use of the milk and water was to be discontinued, but rather esteemed it more necessary, and to be drank plentifully now, and likewise thro' the whole course of the disease, particularly upon the coming on of the *suppuratory fever*. At this time Dr *Millington*, formerly my fellow collegiate, and now my intimate friend, was joined with me, who observing that every thing went on very well, according to the nature of the disease, readily consented that our patient should persist in drinking freely of the liquor above-mentioned, which she often declared was particularly grateful to her, promoting the spitting, and both cooled and refreshed her. But when the face began to harden, and to be crufted over, we apprehended our patient would be injured by the putrid vapours proceeding from the purulent matter of the eruptions, which had a very fetid smell in this worst kind of small-pox, and therefore directed a few spoonfuls of *mulled sack*, to be taken once a day, or as often as she perceived any sickness at her stomach. And by the use of these few things, along with a *quieting draught* every night, she recovered; without having been seized with a *delirium*, or any other very dangerous symptom, except the hæmorrhage abovementioned. The face and hands swelled sufficiently, the eruptions were as large as this sort of small-pox would permit, and the salivation was easy and copious to the end; and, lastly, tho' the eruptions in the face seem'd blackish, whilst they ripened, yet they were yellow in most other parts.

Where unnecessary.

12. But how much soever the kind of small-pox, peculiar to this constitution, exceeded those of other

constitutions in point of heat and inflammation, yet Chap. 6.
 when the eruptions were distinct, or few, experience
 shew'd it to be needless to drink so copiously of the above-
 mentioned liquors. But it sufficed if the patient drank
 small-beer enough to quench his thirst, and supp'd water-
 gruel, and panada, and sometimes eat a roast apple, and
 (if he exceeded *fourteen*) took a dose of *syrup of white*
poppies, when sick, or delirious for want of rest; and I
 did nothing more when the pustules were few, except
 keeping the patient in bed. By this method alone my
 son *William* was, by the blessing of God, recovered in
 this distinct sort of small-pox, in *December*, 1670.

13. I shall add nothing more relating to the small-
 pox of this constitution, as having treated of the other
 kind at large, from which the present only differs by
 being of a hotter and more inflammatory nature; whence
 it follows that more care was required in order to dimi-
 nish the considerable heat, which was so natural to it,
 and so certainly threatened destruction to the patient.

C H A P. VII.

Of the bilious Colic of the Years 1670,
 1671, and 1672.

I. **D**URING all the years of this constitution the blood
 was considerably disposed to deposite hot and
 choleric humours in the intestines, whence the *bilious*
colic prevailed more than ordinary; which disease, tho'
 it should be reckoned amongst those of the chronic kind,
 and of course foreign to my purpose, yet as it depended
 on the same indisposition of the blood at that time, from
 which most of the then prevailing epidemics arose, it
 should for this reason be treated of here; but especially
 because I perceived that the same febrile symptoms pre-
 ceded it, which usually preceded the reigning *dysentery*
 of those times. And sometimes also this distemper; as
 above remarked, succeeded the *dysentery*, when it had
 continued a long time, and seemed to be going off. But
 when it did not succeed an inveterate *dysentery*, it ge-
 nerally arose from a fever, which afflicted the patient
 only for a few hours, and ordinarily terminated in this
 disease,

The bilious
 colic, why
 treated of
 here.

2. It

Sect. 4.

Its sym-
ptoms.

2. It chiefly attacked young persons of a warm and bilious constitution, especially in the summer season. (1) A violent and intolerable pain of the bowels attends it, which sometimes seem to be tied together, and at others closely pursed up, and bored through, as it were, with a sharp-pointed instrument: the pain abates between whiles, but immediately returns again. (2) In the beginning the pain is not so certainly fixt in one place, as in the progress of the disorder; (3) the vomiting is less frequent, and the belly more easily moved by purgatives; (4) but as the pain increases, it becomes more obstinately fixt in one place; (5) frequent vomitings succeed, and the belly is more costive, till at length (6) the excessive violence of the symptoms occasions a total inversion of the peristaltic motion of the guts (unless the patient be relieved sooner) and consequently an *iliac passion*, in which distemper all cathartics immediately become emetic, and glysters likewise, together with the *fæces*, are forced up the intestinal tube, and ejected by vomit. If the matter thus thrown up be quite pure, it is sometimes green, sometimes yellow, and sometimes of an uncommon colour (*e*).

The indi-
cations of
cure.

3. As all the signs of this disease clearly shew it to arise from some sharp humour, or vapour, thrown off from the blood into the intestines; I judge the primary indication of cure, (1) to consist in evacuating both the *antecedent* humour in the veins, and that contained in the intestines; and the next, (2) in checking the great

(*e*) The *bilious colic* proceeds (1) from an acrimonious, corrupt, bilious humour, copiously collected, and stagnating in the small guts, especially in the *duodenum*; and (2) frequently from a furious passion, especially in young persons of a warm and dry constitution, in the summer season. I knew a person in years, otherwise subject to this disorder, who every time he put himself in a violent passion, as certainly had a fit of it soon after, in one of which he, at length, died in a few hours. Or (3) this disorder is occasioned by too free an use of spirituous and hot liquors.—Its principal symptoms are (1) a hoarseness; (2) *cardialgia*; (3) continual loathing of food; (4) vomiting of green bile; (5) an hiccup; (6) a hot and feverish indisposition; (7) restlessness; (8) great thirst; (9) a bitter taste in the mouth, to which (10) there sometimes succeeds a frequent discharge of bilious matters downwards.

When the bilious colic attacks with a shivering, and the pain is exceeding violent, great danger attends it; an inflammation being denoted hereby, which, if not remedied, terminates in a mortification.

tendency

tendency of the humours to the parts affected, and Chap. 7.
 easing the intolerable pain, by exhibiting opiates (f). }

4. In order hereto I bleed freely in the arm, if no blood has been taken away before, and in three or four hours after administer an opiate. The next day I direct some lenient purgative, and order it to be repeated a second time, at a day's interval, and sometimes a third time, according as the remains of the humour seem to be more or less in quantity. But it must be observed, that if this disease proceeds, either from a surfeit of fruit, or any other kind of aliment of difficult digestion, whence depraved and corrupt juices are first received into the blood, and thence separated into the intestines; in these cases the stomach must first be well cleaned by drinking posset-drink plentifully, and vomiting it up again, which being over, an opiate must be given, and a vein opened the next day, and, in other particulars, the process above delivered is to be followed (g).

The method of answering them.

How to be cured if it proceeds from a surfeit.

5. But

(f) It may not be amiss to observe here, that the medicines in this species of the colic should rather be exhibited in a tepid than a hot vehicle, and warm infusions and decoctions, a sweating regimen, and very hot bathing forborn; the bilious humour being exasperated by this means, and made to penetrate more intimately into the nervous parts. And indeed we learn from practical observations, that the drinking of cold water only, which *Galen* used in this disorder, is highly beneficial, and curative thereof. This advice is worth attending to, more particularly if it be occasioned by a furious passion. But this necessary caution is to be inculcated, that in all cases where there is reason to apprehend an inflammation, cold water must absolutely be refrained; otherwise fatal consequences may ensue.

(g) I do not perceive, says the ingenious *Huxham*, what service bleeding can do now, unless the immoderate quantity, velocity, or heat of the blood requires it, previous to all other helps; and besides in plethoric habits it is dangerous to exhibit a vomit, unless bleeding has been first performed.

He goes on. I use the following emetic.

Take of the root of *Ipecacuanha*, a dram. or a dram and half; salt of wormwood, half a scruple; boil in four ounces of spring water to two; strain off the liquor; to which add of the compound distilled water of camomile flowers, and the syrup of buckthorn, each half an ounce: mix them together for a vomiting draught.—To promote the operation, let thin chicken broth be drank plentifully, or an infusion of the leaves of sage, and camomile flowers, which latter I most approve.

This emetic appears to be the gentlest of all those I have yet tried, is a sufficiently powerful cleanser, and the most certain in its effects; for it will work speedily, and not occasion gripings

Sect. 4.

5. But when the violence of the pain, and the vomiting, whence the intestines are in a manner inverted, do

ings by continuing long in the stomach; which *Ipecacuanha*, taken in powders, often does. When I would have it stronger, I add two or three grains of *emetic tartar*, or a spoonful or two of the *infusion of CROCUS METALLORUM* thereto.

Huxham de morb. col. Danroniorum, p. 25, — 27.

When the colic proves very severe, opiates should be joined with purgatives, in order to ease the pain, relax the intestines, and render the peristaltic motion constant and regular. — All pain acts as a *stimulus*, or the *stimulus*, more properly, causes the sensation of pain; every *stimulus* drawing the fibres into contractions, and, if violent, into spasms. If therefore the pain in the colic be extremely urgent, it occasions convulsions in some parts of the intestines, and they are, as it were, tied together, so that, unless the pain be mitigated, neither *stercus* nor *flatus* can be discharged by the *anus*; for which reason a vehement colic is mostly accompanied with great costiveness. In this case, therefore, opiates are conveniently mixed with purgatives, — *e. g.*

Take of the lesser *Pil. cochizæ*, a scruple, or half a dram; *calomel*, half a scruple; *solid laudanum*, a grain; oil of cloves, one drop, make them into pills. Or,

Take of the powder of *jalap*, a scruple, or half a dram; *species diambra*, eight grains; *calomel*, half a scruple; *syrup of buckthorn*, enough to make them into a bolus. — But pills are best retained.

Two or three hours after exhibiting either of these, or the like, I give an *infusion of sena*, a *solution of manna*, or something of this kind, to which I sometimes add *oil of sweet almonds*, or *oil olive*, unless the patient has a great aversion to oil. I increase the dose of these remedies, and repeat them, according to the urgency of the symptoms. These medicines ease the pain, relax and lubricate the bowels, and gently stimulate them to discharge their contents. But if, notwithstanding the use of these, the body continues bound, I order the *abdomen* to be fomented with an emollient fomentation, especially when it is much distended and hardened, or considerably contracted by spasms. The mild vapour hereof penetrates the coats of the *abdomen*, softens and supple the intestines, and relaxes the too tense and rigid fibres. I have often found wonderful effects follow upon the application of such a *fotus*. — For instance,

Take of the roots of *marsh mallows*, *linseed*, and *fenugreek seed*, each three ounces; *camomile flowers*, three handfuls; *white poppy heads*, four ounces; boil them together in equal parts of *milk and water*, for a fomentation.

But greater service may be expected from using it by way of *semicupium*. *Id. p. 29, 30, 31.*

Hoffman likewise observes, that *warm bathing* cures all such distempers as proceed from a contraction of the parts of the lower belly. Of this kind are pains in the intestines, gripings, violent convulsive colics, heavy pains and contractions, occasioned by the stone in the kidneys, and attended with suppression

do not yield to purgatives, they must be made stronger; for it avails not to exhibit a gentle cathartic, unless perhaps the patient be easy to work upon, which should be carefully enquired into, because such a medicine, being too weak to make its way thro' the intestinal tube, does more mischief, the vomiting and pain being increased by its languid and ineffectual motion. A lenitive purging potion, made of an infusion of *tamarinds*, *sena*, and *rhubarb*, in which *manna* and *syrup of roses* may be dissolved, is to be preferred to other purges, because it disturbs and agitates the juices less. But if this cannot be retained in the stomach; either (1) because the patient has an aversion to a liquid medicine, or (2) by reason of the vomiting, recourse must necessarily be had to pills, amongst which I esteem *pil. cochiae* most, because it operates best in this and most other cases. But where either (1) thro' the weakness of the stomach, or (2) the vomiting, pills cannot be retained, I first prescribe an opiate, and in a few hours after a purgative, at such a proper interval, for instance, that the latter may not be overcome, and rendered ineffectual, but continue long enough in the stomach to communicate its purging quality thereto, so that it may at length operate immediately after the virtue of the opiate is gone off. However, if the case will admit, it is best to give the purge a considerable time after the opiate, because it operates with difficulty, even twelve hours after the exhibition of the opiate.

6. But because a purge always increases the pain in this and most other diseases where opiates are indicated, at least when the operation is over, the patient sometimes finding relief whilst it works, I generally give an opiate immediately after it has done operating, and order it to be repeated daily morning and evening, on

sion of urine, costiveness, &c. in all which cases the *warm bath* is eminently serviceable. It must however be observed, in the convulsive colic proceeding from a stagnation of the blood, if the body is full or over-charged with juices, *warm bathing* becomes unsafe; except some blood be first taken away. But in such colics as proceed from hardness of the excrements, a *bath* prepared with emollient ingredients is highly serviceable, along with proper laxative medicines, such as *oil of sweet almonds*, *manna*, *EPSOM salt*, *cream of tartar*, &c. See *New experiments and observations upon mineral waters*, &c. translated by Dr Shaw, p. 192, 193. --- and *Dr Porter's essay on warm bathing in the bilious colic*, in the *medical essays*, 8vo. vol. 3. p. 358.

the

Chap. 7.

The purgatives when to be made stronger.

An opiate when to be given before a purgative.

One to be exhibited when the purge has done working.

Sect. 4. the intermediate days, that I may more certainly ease the pain, till purging has been sufficiently performed.

To be given morning and night after the affair of purging is over.

7. When the affair of purging is over, I endeavour to check the violent motion of the humours, which is all that now remains to be done, by exhibiting an opiate every morning and evening, which must sometimes be repeated oftener: nor have I ever been able to ease very violent pains, without administering a larger dose than ordinary, and repeating it. For what might be sufficient to overcome another disease proves ineffectual in this; the violence of the pain destroying the force of the medicine. Opiates may be safely repeated whilst this kind of pain continues violent, but not after it ceases; for which reason I repeat the opiate in proportion to the violence of the pain, till it either goes quite off, or abates considerably; observing however, to administer it at such convenient intervals, that I may know what effect is to be hoped for from the former dose, before I proceed to give another. But, in general, unless the pain be very severe, it will suffice to exhibit an opiate morning and night. My usual opiate then is *laudanum* above described (*b*); of which I give sixteen drops at a time, in some distill'd cordial water; or the dose may be augmented occasionally, according to the violence of the pain.

Carminative glysters bad.

8. This plain method, whereby (1) the peccant humour is discharged by bleeding and purging, and then (2) ease procured by means of opiates, has always succeeded better with me than any other I ever knew: whereas carminative glysters, injected in order to expel the sharp humours, prolong the disease by raising a disturbance in the juices. But I would have it particularly remarked here, that tho' I have affirmed that bleeding and purging must necessarily precede the quieting method, yet sometimes, when the case demands it, omitting both, the cure is to be begun with opiates. For instance, when, by reason of some preceding illness, large evacuations have been used not long before the colic began; for frequently such as have recovered lately from some other disease, are suddenly attacked with this, from a weakness of the bowels, especially if a greater degree of heat be occasioned by too free an use of wine, or any spirituous liquor: now in this case I

When the cure is to be begun with opiates.

(*b*) See above, *Chap. III. Par. 14.*

esteem it not only unnecessary but detrimental to raise fresh commotions, by giving more purges. Not to mention that the patient, in this disease, has generally cleansed his bowels sufficiently, by the frequent use of glysters, before applying to a physician; so that partly upon this account, and partly by reason of the long continuance of the disease, it should seem that only opiates ought to be exhibited. Chap. 7.

9. In *August*, 1671, I was sent for to *Belvoir* castle by *Exempli-* lord *Annesley*, who had been afflicted for some days with a bilious colic, attended with exquisite pain, and frequent vomiting. He had tried all kinds of glysters, and other remedies directed by the neighbouring physicians: I immediately advised the repeated use of opiates in the manner above delivered, and by this means he recovered in a few days, and returned to town with me in good health. fied in a case.

10. As this pain of its own nature is more apt to return than any other, all occasion of relapse is to be prevented by exhibiting an opiate twice a day for some time. But if it should return upon omitting the opiate, as it sometimes happens, I have hitherto discovered nothing that will so certainly promote the cure, as taking long journeys on horseback, or in a coach, observing in the mean while to give an opiate every morning and evening. For by this kind of exercise the morbid matter is brought to the habit of the body, and the blood, broken and divided by the continual motion, does, as it were, undergo a new depuration, and at length the bowels are greatly strengthened and refreshed by this way of rousing the natural heat (*i*). Nor do I think it Riding on horseback excellent to promote the cure.

(*i*) Nothing strengthens the *viscera* and intestines more than riding on horseback, for by the very different and frequent agitation of the body which this exercise occasions, it gently shakes all the parts of the lower belly, and by this means drives out all viscidities contained in the bowels and blood-vessels, and eminently promotes the circulation of the blood thro' the mesenteric vessels and the ramifications of the *vena porta*, where it circulates slowest. Hence it dissolves the blood, which is in a manner congealed, partly by the violence of the disease, and partly by its long continuance in those parts, and consequently opens the obstructions of the glands of the liver, *pancreas*, mesentery and intestines, and likewise greatly assists the action of the spleen, which sends the blood to the liver. Moreover it appears by numerous experiments, that perspiration is much increased by riding; whence it proves serviceable not only in this,

Sect. 4.

beneath me to own that I have frequently cured this disease by this exercise, when all other means had failed me. But this must not be attempted, unless sufficient evacuations have been previously made, and is to be persisted in several days afterwards.

Instanced
in a case.

11. During these years one of my poor neighbours, yet living, was seized with a most violent bilious colic, which he had long endeavoured ineffectually to relieve by cathartics, glysters, and swallowing leaden bullets. I had recourse here to the frequent use of opiates, nor did they prove unsuccessful, for he remained tolerably easy whilst he was taking them. But perceiving they only palliated and did not eradicate the disorder, for it returned immediately after the effect of the opiate was gone off, I had compassion on the man, labouring under low circumstances, and a violent disease, and lent him a horse to ride a long journey, as above directed; and after riding a few days, his bowels became so strong as to be able to expel the remains of the disease, and he recovered perfectly by this means without the assistance of opiates.

12. And, to speak the truth upon this occasion, I have always known this kind of exercise used with great success, not only in this case, but in most other chronic diseases, provided it were resolutely persisted in. For if we consider that the lower belly, wherein all the secretory organs are seated, is greatly shook by this exercise, perhaps some thousand times a day, we shall readily believe that they are hereby enabled to shake off any gross fizy humours fixt there; and (which is still more material) so strengthened by this powerful rousing of the natural heat, as to be able to perform the function of purifying the blood, assigned them by nature, in a proper manner.

The regi-
men in
this disease

13. For young persons of a hot constitution I direct a cooling and inraffating diet; for instance, barley-cream, panada, &c. and a small chicken, or a boiled whiting every third day, if the appetite continues craving. And I allow no other liquor than small-beer, or milk boiled

this, but in most chronic diseases, by deriving the noxious humours to another part, and expelling them by the pores. In reality riding only has cured where tedious courses of medicine have failed; when therefore the patient can sit a horse, let him ride every day. See *Huxham de morb. colic. Danmon, p. 38.*

with thrice the quantity of water for drink; unless Chap. 7.
 riding, which is necessary to compleat the cure, requires
 a more nourishing diet, and the use of some more
 generous liquors, to recruit the loss of spirits occasion-
 ed by exercise (k).

14. Moreover it is manifest from observation, that Cordials
 when this disease thro' wrong management proves of to be given
 long standing, so that the bowels become weak, and when it
 the patient is extremely emaciated and debilitated, the proves in-
 free use of *plague-water*, AQUA MIRABILIS, or any veterate.
 other cordial that was most grateful to him when in
 health, relieves at this time beyond expectation. For by
 this means the small remains of the natural heat and spi-
 rits are roused, and the preternatural ferment lodged in
 the bowels, which occasions fresh fits between whites,
 will be stopt.

15. The slender diet abovementioned must be conti- A slender
 nued, not only thro' the course of the cure, but for diet to be
 some time after the disease is gone off; for as it is more continued
 apt to return than any other, and besides is seated in the for some
 principal instruments of concoction, which are the time after
 bowels, already weakened thereby, the least error of this the cure.
 kind will immediately occasion a relapse. And there-
 fore all aliment of difficult digestion must be carefully
 avoided, both in this and all other disorders of the
 bowels, and food of easy digestion used very spa-
 ringly (l). 16. Some

(k) To restore the due mixture of the blood, and strengthen
 the *viscera*, *chalybeates* and *stomachics* are very proper. I use
 the following infusion.

Take of the roots of gentian and galangal, each half an ounce;
sweet flag, and dried SEVIL orange peel, each two ounces and
half; cloves, two drams, steel prepared with tartar, three
ounces; pour upon them of mountain wine, three pints and half;
compound wormwood water, a pint and half: let them stand
in infusion for at least twelve days in a glass vessel, observing
to shake it often. When the viscera are weak, and the body
is full of phlegmatic humours, this infusion is extremely pro-
per, as not being at all disagreeable to the stomach. Id. p. 37.

(l) *Absorbents* and *coolers* are very beneficial in this distemper,
 as the *testacea* and *nitre*, and *dulcified spirit of nitre*, which,
 Sylvius says, is the best corrective of the acrimony of the gall,
 and almost a specific for it. Purcell asserts, in his treatise of
 the colic, that cold spring water will answer the same indica-
 tion, and the great quantity of liquid will both dissolve the
 acrimonious salts of the gall, or of the corrosive humours,
 relax the fibres, and cool the parts:---but adds, that it ought

Sect. 4. 16. Some women are afflicted with an hysterick disorder, so nearly resembling the bilious colic in (1) the sharpness of the pain, (2) its seat, and (3) the yellow and green colour of the matter discharged by vomit, that I will treat of it by the way, for fear it should be taken for the disease just mentioned.

What women most subject to it. 17. Females, (1) of a lax and gross habit of body are chiefly subject to it, as are (2) likewise such as have formerly had some hysterick indisposition, or (3) (which frequently happens) those who have just recovered of a difficult labour, occasioned by the largeness of the infant, whereby the mother's strength and spirits were nearly exhausted. (1) It attacks the region of the stomach, and sometimes the parts just below it, with as violent a pain as accompanies the colic, or iliac passion; which (2) is succeeded by exorbitant vomitings, sometimes of green, and sometimes of yellow matter; (3) and to these symptoms, as I have frequently observed, succeed a greater lowness of spirits and despondency than occur in any other disease. The pain goes off in a day or two, but returns again in a few weeks after, and rages with as much violence as ever, before the fit terminates. It is sometimes attended with a remarkable jaundice, which vanishes spontaneously in a few days. When the symptoms are all gone off, and the patient seems pretty well recovered, the least disturbance of mind, whether proceeding from anger or grief, to both which women are extremely subject in this case, is apt to occasion a relapse. Walking also, or any other exercise used too soon will do the same; such causes being productive of vapours in lax and weak constitutions. I use the term *va-*

A relapse how occasioned.

never to be given but to persons of a sound habit of body; nor even to those, without the advice of a skillful physician. Spirituous liquors and all hot things in general are extremely hurtful in most colics, and most particularly so in this kind of colic.—There is scarce a better carminative, says *Hoffman*, than *nitre* given either alone or mixed with carminatives, for which reason it is justly extolled in the bilious colic especially. The bile (as one has observed) in consequence of its deterfive and bitter quality, is a balsamic and natural medicine, without which no animal can long remain sound, and in a due state: now if the bile is vitiated by a congestion of acrid *juices* retained in the humours, it acts like poison, by irritating the nervous system, and producing preternatural heat, anxiety, inquietudes, enormous evacuations, and intense pains. And in order to correct this peccant state of it, no medicine is more efficacious than *nitre*.

pours with the vulgar, but whether they be vapours, or convulsions of particular parts, the appearances may be equally accounted for. Chap. 7.

18. When these vapours, or convulsions attack any particular part of the body, they produce such symptoms as are natural to the part affected; whence, tho' they every where constitute the same individual distemper, yet they artfully resemble most diseases incident to mankind; as plainly appears from the disease under consideration, which exactly counterfeits the bilious colic, when it attacks the parts adjacent to the *colon*. And this is equally manifest also in many other parts of the body affected with this disease. For instance, it sometimes attacks one of the kidneys with a violent pain, occasioning excessive vomiting; and being frequently conveyed thro' the uteters, it counterfeits the stone, in which case, the pain being increased by glysters and other *lithontriptic* medicines used to bring away the stone, it continues with the same violence for a long time, and sometimes destroys the patient, contrary to its nature, as being of itself not dangerous (*m*). I have also known it occasion a train of symptoms exactly like those of the stone in the bladder. I was called up lately in the night to a countess in the neighbourhood, who was seized, on a sudden, with a very severe pain in the region of the bladder, along with a stoppage of urine; and having learnt that she was subject to various hysteric complaints, I conjectured that the disorder was mistaken; and therefore forbid the injecting a glyster, which her woman had got ready, as apprehending it might be augmented thereby; and instead of this and the emollients brought by the apothecary, such as the *syrup of marsh-mallows*, &c. I advised (*m*) I have myself met with an instance of this kind of pain in a lady, who had taken *laxatives, carminatives, and oleous medicines* by the mouth and glysterwise with no effect. Upon enquiry therefore finding that she was much subject to hysteric complaints, I directed the following draught to be taken immediately, and ordered it to be repeated every six or eight hours, according to the urgency of the symptoms, and the pain was entirely removed thereby in twenty four hours. And the lady being some months after affected again in the same manner, had recourse to the same medicine with equal success.

Vapours
artfully re-
semble
most dis-
eases.

A case
wherein
they coun-
terfeited
the stone
in the
bladder.

Take of the distilled waters of penny-royal and rue, each six drams; compound briony, and compound camomile water, each three drams; tincture of castor, and of amber, and of liquid laudanum, each fifteen drops; syrup of white poppies, two drams: mix them together.

Sect. 4. ministered an opiate, which soon removed the complaint. In reality, no part of the body, either external or internal, is quite free from the attacks of this distemper, as the jaws, hips and legs, in all which it causes intolerable pain, and when it goes off leaves such a tenderness of the part behind, that it cannot bear the touch, as if the flesh had been bruised with abundance of stripes.

19. Having now, by way of digression, communicated some remarks belonging to the history of the *hysterical colic*, to prevent its being taken for the *bilious colic*; I will briefly treat of some other particulars relating to the cure of the symptom of pain attending it: for the *radical* cure of the disease itself, which is effected by removing the cause, is a quite different subject, and to be considered in another place.

The pain in the *hysterical colic* generally increased by bleeding and purging.

20. Bleeding and repeated purging, which are so manifestly indicated in the bilious colic, at the beginning, should be omitted here, except in the case hereafter to be mentioned. For experience shews that the pain and other symptoms are increased by the disturbance caused by these evacuations, and I have often observed that the repetition of the gentlest glysters hath occasioned a continued train of symptoms. For if we take a view of the causes whence this disease generally proceeds, both reason and experience teach that it is rather owing to an irregular motion of the spirits, than to any depravity of the juices. Now these causes are either (1) copious and preternatural hæmorrhages, (2) inordinate passions of the mind, (3) violent exercise of the body, and the like; in all which, such medicines as increase the hurry of the spirits are improper, and opiates are to be exhibited in their stead, tho' the green and ill colour of the matter ejected by vomit should seem to indicate the contrary. For the consideration of colours is of too subtle and refined a nature to authorize such evacuations as experience proves to be detrimental. And I doubt not but this disease, which, tho' it be very painful, does no way endanger life, hath proved fatal to abundance of persons, thro' mistakes of this kind. To this may be added, that tho' the strongest emetic be given to-day, in order to expel the supposed cause of the disease, yet the patient will next day vomit a matter, full as green, or of some other bad colour, like the former.

21. But

21. But it must be observed, that sometimes there is Chap. 5.
 such a fulness of blood and juices, as resists the operation {
 of an opiate so powerfully, that notwithstanding it be Yet some-
 very frequently repeated, it avails not to quiet the di- times they
 sturbance, unless bleeding or purging precede: as I have are neces-
 remarked in women of a very sanguine constitution, and sary, and
 robust make. This being the case, one or other of where.
 these remedies, and perhaps both, must be previously
 used, in order to make way for the opiate, a moderate
 dose whereof will then produce the intended effect;
 tho' before bleeding or purging the largest dose availed
 not. But this is a case that seldom happens; and these
 remedies are not then to be repeated. These particu-
 lars being premised, where there is a demand for opi-
 ates, we are to proceed in administering them according
 to the method specified in treating of the *bilious colic*:
 and they are to be repeated, in point of frequency, in
 proportion to the abatement of the pain. This me-
 thod indeed is only adapted to relieve the present sym-
 ptom of violent pain; for I have not undertaken to
 treat of that, in this place, which removes the cause of
 the disease.

22. But as this distemper, both in hypochondriac and It often
 hysterick subjects (for the reason is the same in both, ends in a
 as we shall shew in another place) often terminates in a jaundice.
jaundice, which increases proportionally as the original
 disorder goes off, it must be remark'd that in curing this
 kind of jaundice all purgatives are either wholly to be
 refrained, or none exhibited except *rhubarb*, or some
 other gentle lenitive; for it is to be apprehended that a
 new commotion may be occasioned by purging, and con-
 sequently a return of the symptoms. In this case there-
 fore it is more expedient to give no medicines at all, as
 the jaundice arising from this cause abates by degrees
 spontaneously, and totally vanishes in a short time. But
 if it continues long, and seems to go off slowly, we must
 have recourse to medicines. I commonly use the fol- The cure
 lowing. of it.

Take of the roots of madder and turmeric, each an ounce; An aper-
 the roots together with the leaves of the greater ce- ent apo-
 landine, and the tops of the lesser centaury, each an zem.
 handful; boil them in equal quantities of Rhenish
 wine, and spring water, to a quart; to which, when
 strained

Sect. 4.

strained off, add two ounces of the syrup of the five opening roots: mix them together for an apozem, of which let the patient take half a pint warm, every morning and night, till the cure be compleated (n).

The cure
of an ori-
ginal jaun-
dice.

23. But where the jaundice comes of itself, without being preceded by the colic, besides the alteratives just set down, such medicines must be given once or twice, as evacuate the bile by stool, before the patient begins with the apozem above prescribed, and once a week afterwards, whilst it is continued (o). Take

(n) This apozem might as well be prepared with water only, since long boiling will totally exhale the spirit of the *rhe-nish* wine, and leave it nothing better than mere water.

The following is much better contrived, and more likely to answer the end proposed.

Take of the roots together with the leaves of the greater celandine, the roots of turmeric, and madder, of each an ounce; spring water three pints; boil them together till there remains a quart of the strained liquor; to which when cold add the juice of two hundred millepedes, and two ounces of the syrup of the five opening roots; and mix them together.

A decoction so well adapted, Dr Shaw observes, cannot but be of great service in the cure of the jaundice, when used freely by the patient as ordinary drink. See the *Edinburgh dispensatory, translated by Dr Shaw, p. 101.* And the same by Lewis p. 149.

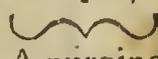
(o) The cure of the jaundice here is very superficially delivered by our author; no mention being made of the *volatile, saponaceous, attenuant, deterfive, and chalybeate* kinds of medicines, which, if judiciously suited to the case, will often prove effectual where this simple method must needs fail.

To supply in some measure its apparent defects, we shall subjoin in a summary manner the general method of curing the several kinds of this disease, taken chiefly from Dr Huxham's treatise *de aere et morb. epid. &c. p. 143. &c.*

It is never without danger, when accompanied with an hæmorrhage; for this denotes the blood to be very acrimonious and thin; in which case *attenuants, aloetics, volatiles, and chalybeates* are highly detrimental; on the contrary *acids, diluents, smoothers, mineral waters, and the like,* are eminently beneficial. If it be attended with a fever, and quick pulse, a decoction of *hempseed in milk,* or an emulsion made with *sweet almonds and white poppy seed,* often does great service, after moderate bleeding, and proper purging.

There is also another, and a very different kind of the jaundice, which proceeds from a sluggish and viscid bile, and accordingly requires a quite different method of cure. Here the blood being clammy and thick generates a very tenacious and vapid bile, which at length obstructs the bilious vessels, so that the obstruction of the liver is rather an effect than the cause of the disease. In this case *emetics* are first required, and then

aloetic

Take of the electuary of the juice of roses, two drams; Chap. 7.
 rhubarb finely pulverized, half a dram; cream of tar-
 tar, a scruple; syrup of succory with rhubarb, enough  A purging
 to make them into a bolus, to be taken betimes in the bolus.
 morning, drinking after it a glass of Rhenish wine.

But if, notwithstanding the long continuance of these If it proves
 medicines, the disease still remain obstinate, the patient obstinate, a
 should go to some place where there is a chalybeate course of
 mineral spring, for instance Tunbridge, and drink the mineral
 water every morning at the well-head till he recovers (p). waters
 —And let this suffice for the diseases of this constitution. must be
 used.

aloetic and mercurial purgatives; and afterwards attenuants, sa-
 ponaceous, tartarous and volatile medicines are necessary. But
 care must be had not to give chalybs too soon, namely before
 having thinned the juices; otherwise instead of relieving the
 disorder, an incurable scirrhus of the liver may perhaps be oc-
 casioned. And here I cannot forbear extolling regenerated tar-
 tar, or the terra foliata tartari, as it is called, as an admirable
 dissolvent or attenuant, not only in this, but likewise in several
 other distempers; for it powerfully dissolves gross and sily hu-
 mours, and opens obstructions of the vessels; and tho' it pos-
 sesses such excellent virtues, it has scarce any acrimony, and,
 what perhaps will seem surprizing, it may be given as safely in
 pleuritic and dropsical disorders. In reality such medicines,
 as are able by their weight and subtilty to divide thick and
 viscid humours, are of very considerable use; but their efficacy
 may be much improved by an admixture of some deterfive
 soap, which dissolves and thins all unctuous and tenacious hu-
 mours.

It must be remembered that steel and heating medicines prove
 extremely prejudicial, if the distemper be inflammatory: and
 that emetics are improper, if it arises from calculous concretions
 in the gall-bladder, which may be conjectured to be the case,
 if it returns frequently.

(p) Our author in advising a course of mineral waters,
 which is indeed of great efficacy in a stubborn jaundice, hath
 taken no notice of the proper season for drinking them, which
 is the beginning of summer: neither hath he inculcated that
 they may be drank with advantage at a distance from the well-
 head, when the patient cannot conveniently go to the spring.
 As to the method of drinking any mineral water, it cannot
 well be particularized, because it requires to be suited to the na-
 ture of particular distempers, constitutions, and ways of living;
 all which are very different in particulars. Besides, in some
 cases proper correctives are to be used along with them, and
 medicines interposed during the course; and in all a due regi-
 men, as to diet, exercise, &c. must be strictly observed, in or-
 der to receive the full benefit of the waters without hazard, or
 danger: all which plainly shews how difficult, and perhaps
 impossible, it is to deliver a set of rules that shall be applicable
 to such an exceeding diversity of circumstances.

S E C T. V. C H A P. I.

Of the epidemic Constitution of part of the Year 1673, and of the Years 1674, 1675.

The rise of
a new kind
of fever.

I. ABOUT the beginning of *July* in 1673 there arose another kind of fever, which did not prove very epidemic; because the constitution was not yet so entirely disposed to favour it, as wholly to exclude the diseases of the preceding constitution. For that kind of small-pox which began in 1670 was not yet extinct, tho' it appeared less frequently, and the symptoms were milder; so that these two diseases prevailed almost equally, but neither very severely, the former constitution being not so totally gone off, as to leave none of the diseases belonging thereto (for the dysentery continued to attack a few) and the then reigning constitution not being so perfectly established, as to produce such as might exterminate all other distempers.

2. The small-pox and this fever continued equally prevalent during this autumn and the following winter, but neither of them raged with great violence; and the dysentery was in a manner extinct. But in *November* following, a sharp frost of some days being unexpectedly succeeded by warmer weather than I ever remember to have observed at this season, some few persons were seized with the dysentery a little before and about *Christmas*; but it seemed then to be going off, and in a short time afterwards this kind of it at least quite vanished.

When the
measles be-
gan in this
constituti-
on.

3. The next year the measles appeared very early, namely in *January*, and proved as epidemic, as that kind which began about the same time in 1670. For few families escaped it, and it attack'd children especially; but it was not so regular in its stages, as that which prevailed in the abovementioned year. But I shall say more of the difference between them, when I come to treat of this kind more particularly. It increased every day more and more, till the *vernal* equinox, after which it abated as gradually, and at length went off soon after the *Summer* solstice,

4. As the epidemic measles of 1670 introduced the *black small-pox* above described, so the present kind, which appeared in the beginning of the current year 1673, being equally epidemic, was accompanied with a similar kind of small-pox. For whereas the small-pox of the preceding constitution, as hath been already observed, after the first two years, gradually abated of their blackness, and also increased proportionally in size, till towards the end of the year 1673, when, considering the kind, it was mild and favourable, it now returned with its former violence, and attended with very dangerous symptoms. This kind of small-pox prevailed during the following autumn, and continued longer than usual in winter, which, on account of its uncommon warmth, favoured this disease; but when colder weather came in, it abated, and soon gave place to the present epidemic fever.

5. This fever, which had continued the whole year, made great devastation in the beginning of *July* 1675, but at the approach of *autumn* it began to strike in upon the bowels, appearing sometimes with the symptoms of a dysentery, and at others with those of a diarrhoea; tho' sometimes it was free from both, and rather seized the head, and caused a kind of *stupor*. In the mean while the small-pox, which attacked only a few subjects here and there, disappeared entirely towards the *autumnal* equinox: and now the fever, having overcome the other epidemics, became the capital disease of the year. It must however be observed, that as this fever was much disposed to throw off the morbid matter upon the bowels, which sometimes occasioned a dysentery, but more frequently a diarrhoea; so upon this account the gripes were generally supposed to have destroyed the numbers that died at this time, whereas in reality their death was rather to be ascribed to the fever, for such as attended the sick during this *autumn* knew how much the fever prevailed; so that both the dysentery and the diarrhoea ought rather to be accounted *symptoms*, than *essential* and *original* diseases.

6. This fever proceeded in this manner during the *autumn*, sometimes seizing the head, at others the bowels, every where raging under the appearance of symptoms peculiar to those parts, till the end of *October*; when the weather, which till now had continued in a manner

Chap. I.

The small-pox returns

The fever assumes a different shape.

Undergoes another change.

Seçt. 5. manner as warm as summer, changed suddenly to cold and moist (*q*), whence catarrhs and coughs became more frequent than I remember to have known them in any other season. But it is of most moment to observe, that the stationary fever of this constitution usually succeeded these coughs, and hence became more epidemic, and likewise varied some of its symptoms. For whereas some little time before, as abovementioned, it attacked the head and bowels, now it chiefly seized the lungs and *pleura*, whence arose peripneumonic and pleuritic symptoms; tho' it was still precisely the same fever that began in July 1673, and continued without any alteration of its symptoms till the rise of these catarrhs.

Yet still
remains
essentially
the same.

7. These catarrhs and coughs continued to the end of *November*, after which time they suddenly abated. But the fever still remained the same as it was before the catarrhs appeared; tho' it was neither quite so epidemic, nor accompanied with the same symptoms, both these depending accidentally upon the catarrhs. Moreover upon their going off a small-pox, manifestly of the same kind with that of the preceding year, began to attack a few persons here and there; but as they had now almost compleated their second year, the symptoms were not so violent as in the beginning.

I cannot say how long this constitution will prevail, but this I certainly know, that it has hitherto been very *anomalous* and irregular, as have likewise all the diseases occasioned thereby. I proceed now to treat of the epidemics of this constitution, in the order wherein they succeeded each other.

(*q*) A cold and moist air, continuing for a time, or suddenly succeeding a dry and warm state thereof, is extremely prejudicial to the body; for it relaxes the solids, whence of course the fluids circulate with less velocity, and have their intestine motion diminished, so that they become thick and tenacious, and consequently cannot be protruded to the extremely fine perspiratory vessels, so as to have their superfluous and noxious parts exhaled, which is also prevented in great measure by the stoppage of the pores from the same cause. Hence abundance of impurities are collected in the body, and the juices likewise lose their soft, balsamic nature, and become acrimonious and irritating; so that if they are not seasonably discharged by some other evacuation, spontaneously arising, or procured by art, *swellings of the throat, coughs, quinsies, catarrhal fevers, &c.* are generated thereby.

C H A P. II.

Of the continued Fever of the Years 1673,
1674, 1675.

I. **T**HIS fever, like other epidemics, was attended with such symptoms soon after its rise, as clearly shewed that the inflammation was then more violent and spirituous, than in its progress (*r*). For the first year of its appearance, and the following spring, pleuritic symptoms succeeded upon the fever, and the blood that was taken away resembled that of pleuritics, at least for the first and second time, but in the course of the disease these signs of an extraordinary inflammation disappeared.

This fever most inflammatory in the beginning.

2. Besides the usual symptoms of all fevers, this fever generally had the following. (1) A violent pain in the head and back, (2) a *stupor*, (3) and tense pain of the limbs, joints, and whole body, but somewhat milder than in a rheumatism: (4) heat and cold succeeded alternately in the infancy of the disease; (5) and sometimes also a great tendency to sweat accompanied it; (6) when the fever was suffered to proceed according to its own nature, the tongue was not dry, and but little altered in its natural colour, only it was whiter; (7) the thirst was inconsiderable: (8) but when the heat was increased beyond the degree common to this fever, the tongue appeared extremely dry, and of a deep yellow colour, the thirst also was increased, and the urine became intensely red, which otherwise used to retain almost its natural colour. When this fever was accompanied only with these symptoms, it went off on the *fourteenth* day, if skilfully treated; but when it proved very inveterate, it continued till the *one and twentieth* day.

Its distinguishing symptoms.

(*r*) It is not at all improbable that the contents of the air, productive of an epidemic disease, are possessed of a much greater degree, both of virulence and activity, when they first begin to communicate their morbid impressions, than some time afterwards; and hence the disease occasioned thereby may be considerably more inflammatory and universal at the beginning, than in the progress and declension thereof.

3. Amongst

Sect. 5. 3. Amongst the symptoms attending this fever the principal one was a kind of *coma*, which rendered the patient stupid and delirious, so that he would doze sometimes for several weeks, and could not be awakened without loud noises, and then he only opened his eyes, and directly after taking either a medicine, or a draught of some liquid he was used to, fell into a sleep again, which sometimes proved so very sound as to end in an entire loss of speech.

The first sign of recovery. 4. When this symptom vanished, the patient grew better on the *twenty eighth*, or the *thirtieth* day, the first sign whereof was the desiring or longing for some odd and uncommon kind of liquid or solid aliment. But the head continued weak for some days, and nodded sometimes on this and sometimes on that side; and there were other signs, which manifested it to have been greatly disordered: but in the same degree the strength returned, this symptom went off.

Sometimes a silent delirium happened. 5. Sometimes the patient did not sleep, but was rather silently delirious, tho' at times he talked wildly as if in a passion; but the fury never rose to so great a height, as is common in a phrenzy in the small-pox and other fevers; from which it also differed in this particular, that he slept confusedly at intervals, and likewise snored more soundly. Neither was this symptom so acute as a phrenzy, but it continued longer, and chiefly affected children and youths, whereas that chiefly attacks grown persons. But in both, if heating medicines were given, and sweating promoted, the disease soon flew up to the head, and occasioned this symptom.

6. But where this symptom neither came spontaneously, nor was forced by medicine, the disease generally terminated in *fourteen*, and sometimes in *three* or *four* days, as I have occasionally observed.

7. In *Autumn*, 1675, as we intimated above, this fever endeavoured to go off by a dysentery, and sometimes by a looseness; but the latter especially happened very frequently, whilst the *stupor* still continued: however, as far as I could learn from diligent observation, both these were only symptoms of this fever.

This fever of a peculiar kind. 8. To proceed to the cure: when this fever arose, *viz.* in *July* 1673, I immediately perceived it was of quite another kind, both from the various signs wherein it differed from those which accompanied the fevers

of the preceding constitution, and from its not yielding Chap. 2.
to purging, by which I successfully cured all those fevers. 
Upon this account I employed more time than ordinary
in searching into its species, and was consequently un-
der much perplexity in what manner to proceed in the
cure. For when this fever first appeared, it had no
epidemic cotemporary therewith, whose genius being
thoroughly known, might enable me to discover some-
what of the nature of this; for the small-pox, which
accompanied it, as I have before said, seemed to be the
remains of the black small-pox of 1670, and was now
become very mild, and nearly extinct. I had no other
way left, therefore, but to enquire carefully into this
disease as it stood alone, and to use my best endeavours
to find out a suitable method of cure, by always at-
tending diligently to the *juvantia* & *lædentia*, i. e. to
what made the patient better or worse (s).

9. The violent pain in the head, and the tendency
there was to a pain in the side, together with the resem-
blance of the blood to that of pleuritics, soon shewed that
this fever was accompanied with a considerable inflam-
mation, notwithstanding which it would not admit of
such large evacuations as are proper in a pleurisy; for

Attended
with great
inflamma-
tion.

(s) The attending to these in doubtful and intricate cases has
indeed its uses occasionally; but too scrupulous and close an
attachment to this slow method argues, I should think, too
much caution.—It may be sometimes necessary to strike out
of the common road, and make a bold push to relieve the pa-
tient; at least in obstinate cases of great difficulty, and more
especially *chronic* ones, the thing is practicable without any
considerable risque, and with great probability of success.—
Suppose, for instance, some strong *alkaline* medicine, or an e-
qually powerful *acid* one, was given under these circumstances,
and the physician were to attend diligently to the effects it
might produce, and be guided by the indications hence aris-
ing in the future course of the cure.—To illustrate this by an
example.—A person was affected with several complex sym-
ptoms, of so perplexing a nature, that little or no light could
thence be got in the case, and the physician was quite at a loss
how to proceed. Upon which he ordered *spirit of sal ammo-
niac* to be taken, as a strong alkaline, the consequence of which,
after a few doses, was a considerable hæmorrhage, which
shewed the blood to be in a very *alcalescent* state, and mani-
festly enough indicated a *subacid* regimen and medicines, a-
long with strengtheners, which produced a cure.—This hint
may not, perhaps, be thought unworthy the attention of phy-
sicians, as it is pregnant with deductions and consequences of
no small moment to the recovery and health of their patients
in abundance of distempers.

after

Sect. 5.

Repeated
bleeding
bad.

Glysters,

And bli-
sterring
serviceableThe me-
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cure par-
ticularized

after the first and second bleeding the blood intirely lost its fizy surface, and repeated bleeding did not at all relieve, unless perhaps the disease changed to a true pleurisy, which sometimes happened by using a hot regimen, especially during the first spring wherein it attacked, namely in 1664, at which time being promoted by the approach of the sun, it seemed to tend to a kind of peripneumony, the disease being then in its infancy, and more spirituuous than afterwards. Being deterred from repeated bleeding, by the ill success which attended it in some instances, notwithstanding this fever manifestly appeared to be of a very inflammatory nature, especially at its first coming, I had no other means left to mitigate the heat thereof, except the frequent repetition of glysters, and the use of cooling medicines (t). Besides the symptoms that so apparently discovered an inflammation, the *stupor*, which happened oftener in this than in any other fever, indicated the frequent injection of glysters, in order to make a revulsion of the febrile matter from the head, which it was very apt to attack in this distemper; and they were substituted instead of repeated bleeding, which agreed not well with the nature of it, and supplied the want thereof by gradually and gently cooling the blood, and expelling the morbid cause.

10. Moreover I judged that large blisters applied between the shoulders must needs do more service in this than in other fevers, where the febrile matter does not equally affect the head; for by the violent heat and pain they usually occasion in the part whereon they are laid, the matter, which would otherwise fly up to the head, is derived thereto. By the use of these remedies, along with a cooling regimen, the disease at length yielded, as it were, naturally and spontaneously, how severely soever it raged, when it was treated by a different method; as plainly appeared to me from numerous instances.

11. I proceeded therefore in the following manner: I first took away such a quantity of blood from the arm, as the strength, age, and other circumstances required,

(t) The best of this class are *nitre*, *crude sal ammoniac*, *Mindererus's spirit*, the *diuretic salt*, heretofore called, *foliated earth of tartar*; none of which are mentioned by our author, whence it may probably be inferred, that the physicians of those days were strangers to their excellent virtues.

and then immediately applied a large blister between the shoulders. The next day I ordered a laxative glyster to be given so early in the afternoon (*viz.* about two or three o'clock) that the disturbance thereby occasioned might be quieted before the evening, and it was repeated every day till the disease abated, when I judged that glysters were to be omitted, and even sooner, if the fever continued after the *fourteenth* day; having found that they availed not after this time, even tho' the fever had not been conquered by those which had already been injected. For the violence of the disease, and the symptoms thereon depending, being now abated by the preceding ebullition, and the danger over, I judged it best to leave the disease to itself, to go off by degrees spontaneously. And this method always succeeded better with me, than the attempting some considerable evacuation at this time. In the mean while I forbade the use of flesh, but allowed small-beer to be drank at pleasure.

12. In treating of the regimen of this distemper I must not omit to observe here, that the patient should fit up at least some hours every day; much experience having shewn that this is of singular service. But if it be contra-indicated by great weakness, the patient should however put on his clothes, and lie down on the bed with his head raised high. For having considered how violently the fever was carried up to the head, and also the inflammatory state of the blood, I conceived he might find some relief by placing the body in such a posture, as might prevent all increase of heat from the bed-clothes (which cannot be avoided if he lies constantly in bed) and check the course of the blood to the head, which increases the heat of the brain, and consequently heats and agitates the animal spirits, whence the heart beats quicker, and the fever rises higher.

13. But how serviceable soever it be in all fevers, attended with great inflammation, not to confine the patient continually in bed; yet it must be observed, that the sitting up too long at a time, particularly in the declension of the disease, disposes to flying pains, that may end in a rheumatism; and sometimes a jaundice is hereby occasioned. In these cases lying in bed is necessary, which opens the pores, so that the particles occasioning either of these disorders may be conveniently carried off thereby.

Chap. 2.

The patient should rise every day, and why.

But not sit up too long.

Sect. 5. thereby. But the patient is to be kept only a day or two in bed, without exciting sweat. These accidents however seldom happen, and never but in the decline of the fever; when the disease being abated, it is much safer to let the patient lie constantly in bed, than in the beginning or height thereof; for at this time it forwards the digestion of the febrile matter, which is more exasperated and inflamed by an earlier confinement in bed.

The method of cure vindicated.

14. But if it should be objected here, that this method, though it be proper enough to divert the course of the blood from the head, and cool the patient, is nevertheless improper, because it checks the evacuation by sweat, whereby the febrile matter, now concocted, should be wholly expelled; I reply, that the objection is of no force, unless it be first proved that this kind of evacuation is necessary in every fever, which cannot easily be done. For experience, not reason, points out which species of fevers is to be cured by sweat, and which by purging, &c. (u). Moreover it is not improbable that there are some kinds of fevers, which nature cures by a peculiar method of her own, without any visible

(u) This position of our author appears odd at first sight; for reason, *scientific* reason, can never clash with *clinical* experience, but, on the contrary, serves to establish and confirm it, and shews how to carry it further by a just analogy. What he should seem to mean here therefore must be, that that sort of experience which is got by attending the sick, and diligently observing the nature, rise, and progress of fevers, as they appear in the human body, and the effects of evacuations and medicines, and not mere *hypothetical* reasoning, deduced from dry and jejune systems, or spun out of a man's own prolific brain, the creature of the imagination only, is to be relied on, in forming a judgment of the different treatment which different fevers require.

For reason is so excellent, and so eminently and extensively useful a faculty to guide us in our enquiries after truth, and holds so principal a place in all sciences, that we may safely conclude it must be of the greatest use and advantage in one of the noblest of them, *physick*, and therefore ought not to be superciliously, or contemptuously rejected and disclaimed. In reality (as Dr Clifton well observes*) if ever physick be brought to perfection, it must be by the method of *Hippocrates*, viz. *judicious observation, and wise reasoning*.

But allowing that experience is the most certain rule for a physician to direct his practice by; it may be asked, what sort of experience may be safely relied upon? the answer to which is easy, viz. such as is consonant to the general experience of others, and agreeable to reason. See Dr Barker on the epidemic fever, p. 81.

* See his state of physic, p. 17.

evacuation, *viz.* by moulding and assimilating the morbi- Chap. 7.
 fic matter in the blood, with which it did not well mix. }
 And going upon this principle I have often cured this
 and other sorts of fevers (provided they were not inter-
 mittent) in the beginning, before the whole mass of
 blood was vitiated, only by directing small-beer to be
 drank at pleasure, forbidding broths, and every other
 kind of aliment, allowing the patient the use of his or-
 dinary exercise, and the open air, and not so much as
 once using any evacuation. Thus I have cured my chil-
 dren and intimate friends, by making them fast strictly
 for two or three days; but this method is only to be
 used in young persons, and such as are of a sanguine
 constitution (*w*). 15. But

(*w*) This is no new doctrine, but as antient as *Hippocrates*, who
 tells us (in *lib. de morb.*) that *abstemiousness in eating and drink-*
ing is a preservative from all diseases;—and in another place—
that nothing is more conducive to health than to eat sparingly and
use exercise. The best antient physicians, amongst whom the
 Methodists (a sect of physicians so called) are of no mean repute,
 did more, in abundance of diseases, by abstinence, fasting, and a
 proper diet, than others by the most powerful medicines. To
 speak ingenuously and freely, there is not the least doubt to be
 made but abstemiousness or fasting would cure many, and pre-
 vent most distempers, had physicians honesty enough to pre-
 scribe it, and skill enough to specify the requisite kind and de-
 gree; and were their patients wise enough not to despise such
 wholesome advice, and resolute enough to pursue it for a suf-
 ficient length of time, which one would think they would
 cheerfully and readily do, were they fully persuaded of the
 unspeakable value of health, and did they consider how many
 nauseous medicines this would prevent their taking, and the
 expence it would likewise save them besides.

*The first physicians by debauch were made,
 Sloth first begun, and luxury sustains the trade.* Dryden.

Whoever observes and reflects upon the indolent, free and lux-
 urious way of living, which prevails amongst almost all ranks
 of people in our licentious downward days, will see but too
 much reason to acknowledge that it does so in a great measure
 still.

Nothing is more manifest than that we are shamefully de-
 parted from the simplicity of manners, and the hardy abste-
 mious manner of life, for which the greatest and best per-
 sonages among the antients are so justly celebrated, and which
 rendered them so remarkably robust and healthy, preserved
 the vigour of the mind unimpaired, and prolonged their lives
 to a good old age. Whereas the contrary practice is followed
 with innumerable dreadful evils; for it weakens the nerves,
 exhaults the spirits, impairs the vigour of the constitution,
 and so produces most of the distempers incident to mankind,
 by which means the whole, or a great part of life is made su-
 premely

Sect. 5.

15. But if it be granted, that nature can conquer the disease no otherwise than by sweat, ought it not to

premely wretched, and the days of vast numbers of people shortened. For, as Dr Cheyne emphatically expresses it, "health and luxury are incompatible; strong fibres and nerves, and immoderate lechery, are contradictory; long life and continued intemperance, in the nature of things, are impossible; physicians under such conditions, by strong and repeated evacuations, and violent astringents and bracers, alternately prescribed, may keep up the patient for a while, but that even poorly and precariously, and at the same time, and by these very means, they precipitate the patient's fate." *Diseases of body and mind*, p. 313.

It is a true and beautiful observation of Dr Nicholls (in his very elegant Latin oration on St Luke's day 1739, before the college of physicians, printed at the end of his *Compendium Anatomicum* in 1742, p. 24.) that---"The provision which nature has made for our health, sloth and luxury engage us to reject, and in consequence of those new methods of living which men have invented, it is become necessary, that having by the practice of their own art found out the way to make themselves sick, they should have recourse to yours for their recovery."—This is one of the many fine passages in this oration which suffers by a translation; for which reason I must refer the learned reader, who is desirous of seeing it in its best dress, to the masterly original.

The truth then of this short, but comprehensive dietetic precept,

Be TEMPERATE, and be HEALTHY for your pains;

which has the joint suffrage of reason and experience to recommend it to our notice and practice, remains incontestable. And yet after all, I fear that the salutary advice which this note inculcates, tho' so well supported, and back'd by so great an authority as Sydenham's, will sound but harshly in the ears of all those that are slaves to their sensual appetites and passions, and place all their felicity in the unlimited gratification of them; utterly disregarding of the grievous consequences which a conduct, so unworthy of the character and dignity of a rational being, created for the highest enjoyments in this life, as well as in that which is to come, may be attended with.

To give lessons of self-denial and temperance to the sons of riot and debauchery, the sleek epicure, and the bloated toper, is like preaching to the winds; they despise all our remonstrances on this hateful topic, tho' ever so clearly and strongly enforced, or at least will not hearken to the voice of reason in time; not till convinced by woeful experience of the folly and madness of their ways, and probably not till it is too late to have their relaxed nerves braced, their vitiated juices corrected, and the ruins of a constitution, enfeebled and shattered by a long course of intemperance and voluptuousness, repaired.

But some perhaps may be induced to reflect in time, by what is here offered to their consideration, and resolve to sacrifice their false and destructive pleasures to their health; and if but

to be understood of the sweat that appears in the decline Chap. 2.
of the disease, in consequence of the previous digestion of the peccant matter, and not of that which is forced in the beginning, and proceeds from disturbing the procedure of raging nature? I conceive that such a sweat is not to be promoted, but contrariwise that the disturbance whence it proceeds is rather to be quieted.

What kind of sweat is to be promoted in fevers.

This kind of sweat usually accompanies many, tho' not all sorts of fevers. But I am well aware that some kinds of fevers naturally require this sort of critical sweat at their declension. Such are the particular fits of intermittents, and likewise the great and most frequent fever of nature, arising from that constitution which only tends to produce intermittents epidemically. For if any method be followed which does not tend, (1) to digest the morbid matter, and (2) to expel it by sweat, the disease will be increased thereby: so that no evacuations must be used here, unless inasmuch as they moderate the violence of the disease in the beginning, for fear of occasioning the death of the patient during the course of the cure. Moreover the cause of a pestilential fever, as it is of an exceeding subtle nature, may be carried off by sweat on the first days of the illness, as experience universally shews.

one of my fellow-creatures should be persuaded by any thing I can say, to quit the high road to infirmities, diseases, pain, and death, and enter upon a course of sobriety, temperance, and abstemiousness, the grand preservative and restorative of health, that most valuable blessing of life, I shall think my pains not ill bestowed.

And were I to incur the censure of a few narrow-soul'd mercenary retainers to the faculty (from whom only I have any reason to apprehend it) for delivering my sentiments so freely, and urging them so warmly on this important subject, it would give me no manner of concern; for I have long learnt not to be deterred by these, or any other considerations, from advancing a plain, tho' it should be an unfashionable and a disagreeable truth, whenever I think it may contribute to promote the welfare of any one of the human race; but to be perfectly easy as to any such consequences, when I know that the design of my actions is good, and not really blame-worthy. See Sir John Floyer of cold bathing, p. 329. and 418; and Winttingham of endemic diseases, p. 110; and the learned reader may, if he please, turn to Hoffman's works, tome 5. p. 328. for a curious dissertation on this subject, intitled, de inedia magnorum morborum remedio, and p. 334. another intitled, de medicina simplicissima et optima, motu, inedia, et aquæ potu.

Sect. 5.

In what
fevers
sweating is
prejudicial

16. But in those fevers, wherein we never find, by the common course of the symptoms, and when they are suffered to proceed according to their own genius, that nature is used to discharge the morbid matter, now prepared, in a limited time, it would be very imprudent to attack the disease, and endeavour to cure it, only by promoting sweat, since, as *Hippocrates* observes, it is in vain to oppose the motions or tendency of nature (*x*). And I conceive this ought to take place in the fever under consideration, which I know by much experience may be cured without sweat, and likewise that, whilst

(*x*) This is a mark of great importance, and which *Hippocrates* has inculcated more than once in his works.—In one place he asserts, that NATURE cures diseases*.—In another, when he bids us observe the tendency of nature, he adds,—*That if the humours tend to an improper part, we should make a revulsion of them from that part; but if they have a right tendency we should encourage it, by opening the passages to which they tend* †. -- It is certain (says *Dr Barker*) from repeated experience (the surest guide) that nature has the chief hand in curing many diseases, and in particular acute ones of all kinds, as the *crisis* which carries off these diseases is entirely nature's work. Prudence, therefore, directs us diligently to enquire what the tendency of nature is, and what the road is which she takes to expel the febrile matter after it is dissolved, and rendered moveable; and when we know this, to forward the expulsion of it, by opening the passages to which it tends, and gently stimulating nature to perform her work ‡. It being then of such vast consequence, diligently to observe the motions, and judiciously to promote the salutary tendency of nature, if need be, or to check its too violent efforts, nothing better deserves our closest application, and in nothing can our judgment appear to greater advantage. The mischiefs that ensue from thwarting her in the beginning of diseases, are always great, and often remediless; and yet, of this unskilful apothecaries are too frequently guilty, by which means they make complex cases of simple ones, and embarrass the physician to find out and distinguish the *genuine* symptoms of the disease from the *adventitious* and irregular ones occasioned by their improper method and medicines. Thus, for instance, in a fever, the natural crisis of which is sweat, this is perverted by purging, and the disease thereby certainly prolonged, if not rendered dangerous. Again, a bilious fever, the natural crisis of which is purging, an injudicious apothecary will endeavour to carry off by sweating, whence there arises a fresh train of complicated symptoms, which it may perhaps be difficult to conquer.

* De Morb. Vulgarib. Lib. vi. Sect. 5. † Epidem. Lib. vi. Sect. 2.

‡ See his essay on the agreement betwixt ancient and modern physicians, p. 5. 261. And the learned reader will do well to consult Hoffman de imprudenti medicatione multorum morborum, et mortis causâ, tom. vi. p. 296.

we endeavour to force it unseasonably, the life of the Chap. 2.
 patient is often unnecessarily endangered, by the morbi-
 fic matter being translated to the head. But however no
 prudent physician will reckon it a trifling advantage,
 either in this or any other fever, not excepting such as
 are not usually terminated by a *critical* sweat, if such
 a kind of sweat should by accident succeed spontane-
 ously upon the abatement of the disease, since by the
 remission of all the symptoms this sweat may be esteemed
 to proceed from a due concoction of the febrile matter.
 But when it does not appear spontaneously, what
 assurance have we that the patient will not be destroy-
 ed, whilst we endeavour by a hot regimen, and heat-
 ing cardiacs, to dispose the humours to sweat? Should
 a person by chance find something of value in his way,
 he would doubtless stoop to take it up, unless he were
 a fool; but he must needs deserve that character, who,
 having had this good fortune, should use his utmost en-
 deavours to obtain such another prize with the hazard
 of his life. Be this as it will, it is apparent to me, that
 the fever alone is attended with a sufficient degree of
 heat to prepare the febrile matter for concoction, and
 needs no additional heat from without, by means of a
 hot regimen in order thereto.

17. I have found the abovementioned method of Bleeding
 bleeding, and injecting glysters, very successful in the and gly-
 cure of this fever; whereas contrariwise sudorifics not sters suc-
 only occasioned anomalous symptoms of a bad kind, but cessful, but
 likewise rendered the cure uncertain. The capital sym- diaphore-
 ptom in this fever was the silent *delirium*, which did tics bad in
 not manifest itself so much by talking wildly, as by a this fever.
stupor resembling a *coma*, which, as we said above, often
 happened in this fever. I have sometimes known it come
 spontaneously, but it is generally occasioned by the ill-
 tim'd over-officiousness of nurses in raising sweat, where-
 by the morbid matter (which in this kind of fever
 does not admit of expulsion of sweat) is put into a vio-
 lent motion, and at length flies up to the head, to the
 endangering the life of the patient.

18. I have already remarked, in treating of the cure
 of the fever of another constitution, that in the latter
 years of its prevalence a *stupor* of this nature chiefly af-
 fected children, and such as were under fourteen years
 of age; but that was neither so considerable, nor so

Sect. 5. epidemic, as the *stupor* which accompanied the present fever. Yet I could not conquer the first, and much less the last, in the beginning of the fever, tho' I used all possible endeavours, by repeated bleeding both in the arms, neck and feet, blistering, cupping, giving glysters and sudorifics of all kinds, and the like. So that at length I determined, after bleeding in the arm, to apply a blister to the neck, and throw up two or three glysters of milk and sugar in the beginning of the illness, without doing any thing more than forbidding the use of flesh and all kinds of spirituous liquor: in the mean time I attended to the procedure of nature, and by following her steps learnt at length how to conquer this symptom, for the disease went off safely, tho' slowly. Upon this account I judged it necessary to pursue this method in all the fevers I have since treated; and look upon it as a thing of great importance, if the greatness of the symptom, and the constant success attending it be considered.

Haste in curing diseases sometimes pernicious.

19. And in reality I have sometimes thought that we do not proceed slowly enough, and ought to use less expedition in removing distempers, and that more is frequently to be left to nature than is usual in the present practice (*y*). For it is a grand mistake to conclude that nature

(*y*) The folly and impatience of mankind often oblige physicians, according to the trite, but well-grounded adage, *to make more haste than good speed*, and to order medicines when it would be much better to do nothing at all, so little do they understand and consider their own true interest; whereas the wisest and best thing they could do, would be to submit implicitly to be directed by a conscientious and judicious physician, allowing him to be only a spectator of the procedure of nature, when he judges it best to wait her motions; it being often, as the ancients advise, *the best remedy to use none at all*; or to act at the time, and in the manner he shall see fit.—If he is an *honest* physician, the patient may be assured he will always do what is *necessary*;—and if a *skilful* one, what is best in due time, and no more.—But so it is—the physician (as Dr *Langrish* observes) is sometimes under a necessity of prescribing *non significantis* merely to preserve his character, and not be thought negligent or ignorant of the cause of the disease. The officious busy tempers of some men have greatly prevented their observing, as they ought, the tendencies of nature; they think to force a *crisis* when they please, by boldly administering strong and powerful medicines; whereas it may be, the greatest benefit is to be done by the most simple, easy, and gentle means, or, perhaps, by leaving it entirely to the management of nature. Many instances

nature always wants the assistance of art; for if that were the case, she would have made less provision for the safety of mankind than the preservation of the species demands; there being not the least proportion between the multitude of diseases, and the knowledge men were endowed with to remove them, even in those ages wherein the healing art was at the highest pitch, and most cultivated. What it may do in other diseases I cannot say; but I am convinced, from diligent observation, that in the fever under consideration this symptom, after using the general evacuations, *viz.* bleeding and glysters, was successfully conquered by time alone.

20. It has been already observed that the signs of recovery did not usually appear till the *thirteenth* day, when the *stupor* was considerable, and attended with a loss of speech; and then the patient earnestly longed for some odd kind of liquid or solid aliment, the ferment of the stomach being greatly vitiated by the long continuance of the fever. Now in this case, tho' the patient was so weak as to need a restorative diet, yet I willingly allowed such things as were less proper, provided they were more grateful to the palate.

Improper diet when to be indulged.

21. In *September*, 1674, I attended the son of Mr *Not*, bookseller, a youth of nine years of age, who was afflicted with this fever, accompanied with the above-mentioned symptom. After bleeding in the arm, and injecting glysters every day in the beginning of the illness, the mother earnestly importuned me to hasten the cure more than I judg'd consistent with the safety of her child, and therefore I refused to comply with her request. Having accordingly gained time, I directed only a common julap; which I did rather to please the mother, than to relieve the son. On the *thirtieth* day he began to amend, and earnestly desired several odd kinds of eatables, some of which were indulged him upon this

History of a cure.

stances might be alledged to shew what vast advantages have accrued by a strict attendance to the demands of nature, without pouring in a load of physic. Nature is often conquered by obeying and humouring her; for by diligently watching and observing the ways and means she uses to free herself from the disease, and then joining with her in the same undertaking when she needs our assistance, we compleat the cure, which otherwise might have been very uncertain. See his *modern theory and practice of physic*, p. 173. 220. par. 8. Clifton's *state of physic*, &c. p. 154. and Cheyne's *diseases of body and mind*, p. 65.

Sect. 5. account, tho' they ought not otherwise to have been allowed; and by this means he at length recovered (z).

22. But

(z) The prudent caution of our author in indulging his little patient with only some of the odd kind of eatables for which he long'd, well deserves to be commended and imitated; but it requires some discernment to know how far the humour and appetite of the patient may be safely gratified. Besides, the reputation of the physician may suffer if he should commit any considerable mistake in this matter, as the error will be very manifest to the friends and attendants of the patient, who are often but too ready to censure, and call his judgment in question, without his giving, or their being able to assign the shadow of a reason for it. Hard indeed, and much to be lamented is the lot of physicians, and it really makes ours a very mortifying and disagreeable profession, that we are so frequently censured and condemned, not only by such as pretend to a smattering in physic, yet in truth know little or nothing of the matter, at least in what relates to practice, (between which and theory there is often a wide difference,) but even by persons of the meanest capacity, who, every body of common understanding must allow, are utterly incapable of forming any judgment of our abilities; and, therefore, only expose their own folly and ignorance the more, by assuming a province for which neither nature nor education has qualified them.

It is no such easy matter, as it is generally imagined, to know whether a man, who has the appellation of a physician, is possessed of all the necessary qualifications that go to make up the character of a skilful one, which in short are *learning, sagacity, humanity, and probity*. For who does not see that none but a person of unblemished integrity, and eminently versed in all the branches of the art of physick, is a proper judge of the medical abilities of another?

Now it is owing to the incapacity which the generality of mankind lies under of judging of the true merits of physicians, that they too often meet with the cruel usage and ungrateful returns above complained of, when in reality they deserve the highest praise, and the heartiest acknowledgment, for their extraordinary pains and anxious solicitude to discharge their duty, which every honest and able physician does to the utmost, in all tedious, obstinate, and dangerous maladies.——But with us, all is well that ends well:——nothing so, that does not.——We must be aspersed and bear all the blame, and no allowance is made for the wilfulness and ungovernableness of the patient, the false tenderness of parents, relations, and friends, and the negligence, thoughtlessness, mistakes, imprudent officiousness, and opinionativeness of those about him; and perhaps the badness of medicines likewise: but how little we deserve such unfair and ungenerous treatment, I leave to the candid, the sensible, and good-natured part of mankind to judge.

“ If the physician takes never so much care on his part, says Dr *Clifton*, and the apothecary sends the best medicines that can be prepared, the patient may easily spoil all by his
“ own

22. But tho' this comatous kind of *stupor* oftener Chap. 2. accompanied this fever than the other symptoms, yet sometimes, tho' rarely, a *delirium* happened with-
 out a *stupor*, in which the patient slept neither night nor day, and was ungovernable, and was seized with other symptoms, resembling those which affect delirious persons either in the small-pox, or in other fevers. This symptom would not admit of palliation, like the comatous disorder just mentioned, till concoction could be performed, but proved fatal in a short time, unless the inflammation was abated. In this case *spirit of vitriol* did more good than any thing else, so that, after bleeding, and injecting a glyster or two, I allowed it to be dropt into small-beer for common drink: and in a few days it disposed the patient to sleep, and having removed the symptoms, restored him to health, which indeed I was not able to effect by any other method. And this was manifest to me by much experience.

Sometimes a *delirium* with watchfulness, &c. happened in this fever.

Spirit of vitriol most effectual in removing these symptoms.

23. In *Autumn*, 1675, dysenteric stools, and sometimes a looseness succeeded this fever, which I presently perceived were *symptomatic*, and not *original* disorders, as in the preceding constitution. But notwithstanding, as the cause of the disease was contained in the mass of blood, bleeding was indicated, which, with the assistance of two doses of an opiate afterwards, proved sufficient to overcome this symptom.

24. In *September*, 1675, I was called to Mrs *Conisby*, who was seized with this fever, which was suddenly followed with gripings, and these by bloody and mucous ejections. Tho' her strength was much exhausted by the long continuance of the disease, and especially by the

The dysentery succeeding this fever how conquered.

“ own bad management; and yet (which is very hard) neither the physician nor apothecary shall escape censure in this case. It were therefore to be wished, that every patient would endeavour to get the better of unreasonable objections, and resolve to conform to his physician's directions, or else not send for him. This would certainly be the case, if private persons could be sensible of the uneasiness and vexation that the physicians and apothecaries often feel, when a promising case is made desperate (a thing that frequently happens) merely by the forwardness and mismanagement of the patient. Add to this, that the character and reputation of both parties suffer sometimes considerably by it; an injury that ought never to fall upon those whose conduct all along has been judicious, honest, and unblameable.” *State of physick antient and modern*, p. 136.

frequent

Sect. 5. frequent stools which had greatly fatigued her the preceding night, I directed bleeding in the arm immediately, and soon after gave an opiate, after which there appeared natural stools the same evening. I repeated the opiate the following morning and evening, and ordered a gentle cardiac to raise the spirits; and by this treatment she soon recovered.

The looseness succeeding it how cur'd.

25. As to the *diarrhoea*, which frequently happened in this fever, about this time of the year, it occasioned little inconvenience; and as it neither proved serviceable, nor prejudicial, as far as I could perceive, whether there was a *stupor*, or not, so it furnished me with no indication, provided it was not so violent as to endanger the life of the patient, in which case an opiate was clearly indicated; and in this symptom only is the use of anodynes to be approved throughout the course of this disease; for the extraordinary tendency to a *stupor* in this fever was increased by medicines of this kind, consequently they were not to be given without an absolute necessity.

Night-sweats whence, and how cured.

26. It must be observed, that it often happens that those persons who recover after this and other fevers, especially such as have been much exhausted by its long continuance, and have required large and tedious evacuations to compleat their cure (particularly if they were also of a weak constitution) do, as they lie in bed at night, first grow hot, and then fall into a profuse sweat, whereby they are greatly debilitated, and recover strength slowly; and some likewise fall into a consumption. As I conceived that this symptom proceeded only from the blood's being so impoverished and weakened by the continuance of the preceding illness, that it could not assimilate the juices lately taken in, but endeavoured to expel them by sweat; I ordered that the patient should take five or six spoonfuls of old *Malaga* sack, morning and evening, whereby the strength increased daily, and the sweats vanished (a).—And thus we have finished our discourse of the continued fever of this constitution, which we chuse to call the *comatous fever*, on account of the great *stupor* which generally accompanied it.

C H A P.

(a) A restorative diet, proper exercise, and the use of a light infusion of the bark in red wine will seldom fail of producing the desired effect in this case. *Elixir of vitriol* is also esteemed an excellent medicine for the same purpose.

C H A P. III.

Of the Measles of 1674.

I. **I**N *January*, 1674, there arose a different kind of the *measles* from that which began in the same month, in 1670, and yet it proved as epidemic, but was not equally regular, nor so constantly kept its several stages: for sometimes the eruptions came out earlier, and sometimes later, whereas in the other kind they always appeared on the *fourth* day inclusive from the beginning of the illness. Again, the eruptions here appeared first on the shoulders, and other parts of the trunk; but in the other species they first shewed themselves in the face, and by degrees spread over the rest of the body. In this species likewise I seldom found that the skin peeled off like branny scales upon the disappearance of the eruptions, which happened as certainly in the other kind, as after a scarlet fever. Moreover this sort proved more destructive, when unskilfully treated, than the former: for the *fever* and *difficulty of breathing*, which used to succeed at the close of the distemper, were more violent here, and resembled a *peripneumony* more. But tho' this species of the measles was anomalous and irregular, with respect to the symptoms just mentioned, yet in general the description of that of 1670 agreed pretty well therewith; which need not therefore be repeated here. This kind also, like the former, increased till the *vernal* equinox, from which time it abated, and at length vanished, at the approach of, or soon after, the *summer* solstice.

The rise of a new species of the measles.

2. As the method of cure differs little from that which is amply delivered above in the history of the measles, it is to be sought for there; and I will only give a single instance hereof in this place, according to my custom.

The method of cure whence to be taken.

3. In *February*, 1674, the countess of *Salisbury* sent for me to one of her children in the measles, which the rest, to the number of five or six, soon afterwards caught, and I treated them all in the same manner. I ordered they should lie in bed for two or three days before the eruption, that the blood might breathe out thro' the pores the particles occasioning the distemper, which

Exemplified in some children.

Sect. 5.  which were easily separable from it. But I allowed them no more clothes, nor a larger fire, than they were accustomed to when in health. I forbid the use of flesh, and permitted them to sup water-gruel, and barley-broth, and between whiles to eat a roasted apple, and I gave them small-beer, or milk boiled with thrice its quantity of water for drink. I also prescribed a pectoral ptisan, as usual, to be drank occasionally, as the cough proved troublesome. By this means they recovered in the short time wherein this disease ordinarily terminates, and were not seized with any symptom which is not common in the measles, throughout the course, or after the departure thereof.

The origin of a morbillous fever.

Bleeding and glysters bad therein.

4. During the first two months in which this kind of the measles prevailed, a kind of *morbillous fever* intervened in a few subjects, attended with some eruptions in the body, but especially in the neck and shoulders, resembling the measles, from which however they differed in being confined to the parts abovementioned, and not seizing the whole body. The fever also, tho' manifestly of the same kind, was more violent, and lasted *fourteen* days, and sometimes longer. It admitted neither bleeding nor glysters, being exasperated by both, but readily yielded to the method adapted above to the measles.—And let this suffice for the measles.

C H A P. IV.

Of the anomalous Small-pox of 1674, 1675.

The return of the black small-pox. I. **A**S the epidemic measles, which appeared in the beginning of the year 1670, introduced the *black small-pox* there described; so that kind which arose in the beginning of 1674, and proved equally epidemic, introduced a sort of small-pox, so extremely like the former, that it seemed to be the same revived, and not a new kind. For as we have before observed of that sort of small-pox, that after the first two years of its prevalency the pustules became daily less black, and grew larger by degrees, till the end of the year 1673, when the disease was mild and gentle, considering the kind, it now returned again with its former violence, and attended with a train of destructive symptoms. For in

in the *flux kind* the pustules appeared of a sooty blackness, unless the disease proved fatal before they came to suppuration; for whilst they ripened, they were only of a brown colour. Moreover, when the pustules were numerous, they were very small (for where very few appeared, they were of the same size as in other kinds of the small-pox, and very rarely black) and nearly resembled that kind above described which prevailed in 1670, differing only in a few particulars, which shewed that this sort was attended with a greater degree of putrefaction, and of a grosser and more indigestible nature: for when the eruptions came to maturity, they were much more fetid than in the other kind, insomuch that I could scarce bear to approach such as were very full, the stench was so offensive. They also ran thro' their stages slower than any other species I had hitherto seen.

2. It is worth observing, that the milder the kind is, the sooner the eruptions come to suppuration, and the disease is terminated. Thus in the regular species of the *confluent small-pox*, that began in 1667, the *eleventh* day was attended with most danger, after which the danger was generally over. In the next succeeding irregular species of the confluent small-pox, which arose in the beginning of 1670, the *fourteenth*, or, at farthest, the *seventeenth* day proved most fatal, which if the patient survived, he was in no further danger; for I never knew a person destroyed by this disease after the *seventeenth* day. But in this sort of the confluent small-pox, there was danger after the *twentieth* day; and sometimes if the patient recovered, which happened to few, the ankles not only swelled, which is common in every species of the confluent small-pox, but the shoulders, legs, and other parts; and these swellings begun with intolerable pain, like a rheumatism, and frequently came to suppuration, and terminated in very large sinus's and imposthumes in the muscular parts; so that the patient's life was greatly endangered for several days after the small-pox was gone off. Hence I clearly perceived by what degrees this epidemic distemper advanced thro' these three constitutions, the latter whereof always exceeded the former, both in the degree of putrefaction, and the indigestible state of the morbid matter.

Chap. 4.

The milder the kind the sooner the pustules suppurate.

3. But

Sect. 5.

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This small
pox seems
to be a new
kind.

3. But the *small-pox*, whereof I now treat, seems to me to be a new sort arising from the former, now in the decline. For tho', according to the tendency of the air productive of this epidemic, the *black* small-pox, which first appeared in 1670, had arrived at its declension, yet, like a relapse of some disease caused by the fresh fermenting of the former matter, the air, being again disposed to produce the *small-pox*, brought it back; and the disease being renewed, and having obtained fresh force, seemed clearly to revive, and in a manner to grow young again. And this kind proved so much more irregular, and was accompanied with greater putrefaction, in proportion as the matter occasioning it was grosser and fouler than that which produced the preceding kind. Now, to render this still more manifest, we must not imagine there is the least necessity of such a disposition in the air, as may propagate a particular epidemic in one place, and a very different one in another not far distant from it; for if this were the case, as it sometimes is, every motion of the winds would have a power of spreading a constitution. But I conceive it more probable, that a certain particular tract of air becomes replete with *effluvia* from some mineral fermentation, which infecting the air thro' which they pass, with such particles as prove destructive sometimes to one kind of animals, and sometimes to another, continue to propagate the diseases peculiar to the various dispositions of the earth, till the subterraneous supplies of those *effluvia* fail; which may likewise undergo a new fermentation from the remains of the old matter, as in the case just mentioned.

Was of a
grosser,
and more
putrefac-
tive nature

4. But whether this or any other hypothesis may better serve to solve the phenomena, is equal to me, who pretend to know nothing more than is clear from the fact itself. Of this however I am certain, that the present small-pox exactly resembled that of the preceding constitution; only it seemed to be of a grosser nature, and attended with a much greater degree of putrefaction. And from these two causes it followed, that when the eruptions were very confluent, it destroyed abundance more than any other sort I had hitherto seen; and, in my opinion, was as fatal as the plague itself, with respect to the numbers it affected: tho', when it proved the distinct kind, it was not more dangerous

than any other sort, and by the size and colour of the pustules, and other particulars, appeared to be a good Chap. 4.

5. With respect to the cure, I have long wondered to find such manifestly contrary indications, as this disease seemed to exhibit. For it was very evident that a hot regimen immediately caused such symptoms as proceed from a too violent inflammation, *viz.* a *delirium*, purple spots, and the like, whereto this disease is chiefly subject. And contrariwise too cool a regimen prevented the swelling of the face and hands, which is highly necessary here, and sunk the eruptions. But after a long and thorough consideration of these matters, I at length found that I could remedy both these inconveniencies at the same time. For by allowing the free use of milk boiled with three parts of water, small-beer, or some similar liquor, I was enabled to check the commotion of the blood; and, on the other hand, by keeping the patient constantly in bed, with his arms covered, the filling of the pustules, and the swelling of the hands and face were promoted by the moderate warmth thereof. Nor does this method contradict itself; for after the eruption is over, it is to be supposed that the blood hath thrown out the inflamed particles upon the habit, and therefore needs no *stimulus* in order to a further secretion of the matter: so that, as the principal affair lies now in the habit of the body, and promoting the suppuration of the pustules, all that is to be done, with respect to the blood, is, to prevent its being injur'd by the hot vapours that may strike in from the skin covered therewith; and, with respect to the *pustules*, they are to be brought to suppuration by the gentle heat of the external parts.

6. But tho' this method succeeded well in the other kinds of the confluent small-pox, it nevertheless failed in that of this constitution; for most of those died who had it in a violent degree, whether they were treated by my method, or by the hot regimen and cardiacs. I was very sensible therefore that, besides the medicines which served to check the ebullition of the blood, or promote the elevation of the pustules, and the swelling of the face and hands, there was further required a medicine of sufficient force to overcome the putrefaction, which appeared to be much greater in this sort than in

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Sect. 5. any other I had observed. At length I thought of spirit of vitriol, which I conceived might answer both intentions, viz. (1) check the progress of the putrefaction, and (2) mitigate the vehement heat, Whereupon leaving the patient to himself, without doing any thing till the pain and vomiting preceding the eruption were gone off, and all the pustules come out, at length on the *fifth* or *sixth* day I allowed small-beer, gently acidulated with *spirit of vitriol*, to be taken at pleasure for common drink, recommending it to be drank more plentifully upon the approach of the suppuratory fever, and the use of it to be continued daily till the patient recovered.

A different one let down, which succeeded.

Spirit of vitriol commended.

7. This spirit, as if it were truly a specific in this disease, surprisngly abated all the symptoms; the face swelled earlier, and in a greater degree, the spaces between the eruptions inclined more to a bright red colour, like that of a damask rose; the smallest pustules also became as large as this kind would allow; and those, which had otherwise been black, discharged a yellow matter, resembling a honey-comb; the face, instead of being black, appeared every where of a deep yellow; lastly, the eruptions came sooner to suppuration, and ran thro' all their stages a day or two sooner than usual. In this manner did the disease proceed, provided the patient drank freely of the liquor above commended; so that, when I found there was not enough of it drank to take off the symptoms, I exhibited some drops of the *spirit of vitriol* between whites, in a spoonful of some syrup, or a mixture of some distilled water and syrup, in order to make amends for the sparing use of the abovementioned liquor.

No inconvenience attending the use thereof.

8. I have now enumerated the many advantages of this medicine, and indeed I have not hitherto found the least inconvenience from the use thereof (*b*): for tho' it is mostly

(*b*) It is justly to be apprehended that the blood may be coagulated, and the lungs and nervous parts highly injured by the free use of this noxious acid spirit. Oil of sulphur by the bell, or much dulcified spirit of nitre, will answer the same end, and may be given more safely.

Oil of sulphur by the bell, *Van Swieten* says, is the purest fossile acid in nature, without the least mixture of metalline particles*.—But a very expert and ingenious chymist, after

* Comment. in *Boerhaave* aphorism. Vol. I. p. 127.

möstly stopt the salivation on the *tenth* or *eleventh* day, Chap. 4. yet some stools usually succeeded at this time instead of it, which were less dangerous than that stoppage; for, as we have often mentioned, such as have the confluent small-pox are principally endangered on these days, because the *saliva*, being rendered more viscid, does then threaten suffocation. But in the present case, this symptom is relieved by the looseness, and either goes off spontaneously, or is easily cured by the milk and water, and an opiate, when the danger from the small-pox is quite over.

9. Tho' the patient by my order kept his bed during this time, and his arms in bed, I suffered no more clothes to be laid upon him than he was accustomed to when in health; and permitted him to change place as often as he pleased, to prevent his sweating, to which he was extremely subject, notwithstanding this remedy. In the mean time he supp'd water-gruel and barley-broth, and sometimes eat a roasted apple. Towards the decline of the disease, in case of faintness, or sickness at stomach, I allowed three or four spoonfuls of canary; but after the *fifth* or *sixth* day I ordered a composing draught (earlier than usual) every evening for grown persons, for children had no occasion for it: the draught was *fourteen drops of liquid laudanum in a little cowslip water*.

10. On the *fourteenth* day I allowed the patient to rise, on the *twenty-first* directed bleeding in the arm (c), and then purged him twice or thrice, after which

The patient not to lie always in the same place in bed.

The regimen.

Bleeding and purging when to be used he after the small-pox is gone off.

giving a process for making it from the *Edinburgh* medical essays, makes the following remark, which shews him to be of a different sentiment.—We have inserted the above process, in conformity to the prejudices of some who believe, that this spirit, or oil of sulphur by the bell, as it is called, essentially differs from the common oil of vitriol of the shops. We have long been persuaded of the truth of the contrary opinion; and have not been able, by any experiment whatsoever, to distinguish a difference between the two, provided both liquors were of equal purity and strength. But this dispute will now perhaps be quickly at an end; for if we are rightly informed (and from our own experiments we are well assured of the possibility of the thing) almost all the oil of vitriol now sold, is prepared from the fumes of burning sulphur, caught by a more convenient apparatus than any commonly known. *Lewis's Edinburgh dispensatory*, p. 296.

(c) Few authors have insisted upon bleeding universally after the

Sect. 5. he had a better colour, and looked brisker, than those usually do whom this disease has so severely treated. Besides, this method generally preserved the face from those unseemly scars, which are occasioned by the corrosion of the skin from hot humours.

The method exemplified in a grown person.

II. On the twenty-sixth of *July*, 1675, Mr *Elliot*, one of the grooms of the bed-chamber to the king, committed one of his servants to my care, who had this ill-conditioned sort of black small-pox coming out. He was about eighteen years of age, of a very sanguine constitution, and was attacked with this distemper soon after hard drinking. The pustules were of the confluent kind, and ran together more than any I had hitherto seen, so that scarce any intermediate space was left between them. Relying upon the virtue of this efficacious medicine, I omitted bleeding, tho' I was called in soon enough to have done it, and ought indeed to have ordered it, as the disease was occasioned by drinking too much wine. When the eruption was over, *viz.* on the *fifth* or *sixth* day, I ordered *spirit of vitriol* to be dropt into some bottles that were filled with small-beer, and allowed this liquor to be drank at pleasure for common drink. On the *eighth* day he bled so much at the nose, that the nurse, terrified by this symptom, sent in great haste for me. And as soon as I came, perceiving that this hæmorrhage arose from the immoderate heat, and unusual commotion of the blood, I ordered him to drink still more freely of the acidulated small-beer, whereby the flux of blood was soon stopt. The salivation being plentiful enough, and the swelling of the face and hands, and the filling of the pustules, proceeding in a proper manner, the disease went on very well, except that in the decline thereof some bloody and mucous stools succeeded, which might have been prevented perhaps by bleeding in the beginning, for the reason abovementioned. Nevertheless I used no other medicine in the *dysentery*,

the small-pox, and the modern practice by no means favours it; and indeed when the disease has been severe, it should seem prejudicial, as the blood must needs have been greatly impoverished, and the spirits considerably exhausted by the preceding illness. Cases however may happen where bleeding is requisite, but they should be particularly described, and marked as exceptions to the general rule.—Purging is always proper, and ought never to be omitted.

but

but the composing draught, which I should have ordered to be taken every evening, if this symptom had not happened; and by this means it was checked, till the eruptions went off; and afterwards, upon taking away a sufficient quantity of blood from the arm, and drinking plentifully of milk and water, the patient soon recovered.

12. About the same time, Mr *Clinch*, a neighbouring gentleman, committed two of his children to my care; one was four years of age, the other suckled, and was not six months old; the eruptions were very small and confluent in both, and of the black kind, and came out like an *erysipelas*. I directed *Spirit of vitriol* to be dropt into all their drink, which, notwithstanding their tender age, they drank without any aversion; and not being seized with any worse symptom, they soon recovered. My intimate friend, Dr *Mapletoft*, accompanying me to visit them, found the eldest recovering, and the youngest then lying ill in the cradle.

13. But it must be noted that as the distinct sort of the *small-pox* of this constitution was very mild, it needed not this remedy; the method we have before laid down, for the treatment of the distinct kind, sufficing here.

14. I have now given the reader all my observations relating to the *small-pox*; and tho' they may perhaps in this censorious age be esteemed of little moment, yet I have with great pains and care spent many years in making of them; nor had I now published them, if a design of benefiting mankind had not induced me to it, even at the expence of my reputation, which I am sensible will suffer on account of the novelty of the method. And yet I cannot conceive why a new way of curing a disease, not to be met with in *Hippocrates* or *Galen*, (unless perhaps some passage in their writings have a forced interpretation put upon it) should be disliked, since the methods of cure appropriated by the modern physicians, not having been established by those two great lights of physic, may as reasonably be rejected by some, as magnified by others.

15. And for the same reason it should not seem strange, that I have made some alteration in the method of curing those fevers, which depend on such constitutions as are epidemic with the *small-pox*. For if

Sect. 5. the *small-pox* never appeared in those early ages, it follows likewise that such fevers never existed. Now it is highly probable there was no *small-pox* to be found at that time; for if this distemper had been as common then as it is now, I am of opinion it could not have been concealed from the sagacious *Hippocrates*, who, as he understood the history of diseases better, and has described them more accurately, than any of his successors, would also have left us, (according to his custom) a plain and genuine description of this disease.

Diseases
have cer-
tain peri-
ods, and
whence.

16. Hence therefore I conjecture, that diseases have certain periods, resulting from the secret and hitherto unknown alterations happening in the bowels of the earth, that is, according to the different age and continuance of the same. And that as some diseases have existed in former ages, that are now either quite extinct, or at least appear very seldom, as being wasted with age, such as the *leprosy*, and perhaps some others; so the diseases which now prevail, will at length vanish, and yield to other new species, of which indeed we can form no idea. This may be the case, whatever notions we form of this matter, who were born, as it were but yesterday, and to-morrow perhaps may die; nor are the practical observations of the antients of much longer standing, if compared with the beginning of the world.

C H A P. V.

*Of the epidemic Cough of the Year 1675,
and the Pleurisy and Peripneumony which
followed upon it.*

The rise
of an epi-
demic cough

I. **I**N 1675 the season having continued unusually warm, like summer, till towards the end of *October*, and being suddenly succeeded by cold and moist weather, a cough became more frequent than I remember to have known it at any other time; for it scarce suffered any one to escape, of whatever age or constitution he were, and seized whole families at once. Nor was it remarkable only for the numbers it attacked (for every winter abundance of persons are afflicted with a cough) but also on account of the danger that attend-
ed

ed it. For as the constitution, both now and during the preceding autumn, eminently tended to produce the epidemic fever above described, and as there was now no other epidemic existing, which by its opposition might, in some measure, lessen its violence, the cough made way for, and readily changed into the fever. In the mean while, as the cough assisted the constitution in producing the fever, so the fever on this account attacked the lungs and *pleura*, just as it had affected the head even the week preceding this cough; which sudden alteration of the symptoms occasioned some, for want of sufficient attention, to esteem this fever an *essential pleurisy* or *peripneumony*, tho' it remained the same as it had been during this constitution.

Chap. 5.

The fever remained the same notwithstanding the sudden change of its symptoms.

2. For it began now, as it always did, with a pain in the head, back, and some of the limbs; which were the symptoms of every fever of this constitution, except only that the febrile matter, when it was copiously deposited in the lungs and *pleura*, thro' the violence of the cough, occasioned such symptoms as belong to those parts. But nevertheless, as far as I could observe, the fever was the very same with that which prevailed to the day when this cough first appeared; and this likewise the remedies to which it readily yielded plainly shew'd. And tho' the pungent pain of the side, the difficulty of breathing, the colour of the blood that was taken away, and the rest of the symptoms that are usual in a pleurisy, seemed to intimate that it was an *essential pleurisy*; yet this disease required no other method of cure than that which agreed with the fever of this constitution, and did no ways admit of that which was proper in the *true pleurisy*, as will hereafter appear. Add to this that when a pleurisy is the original disease, it usually arises betwixt spring and summer; whereas the distemper we now treat of, begun at a very different time, and is only to be reckoned a symptom of the fever which was peculiar to the current year, and the effect of the accidental cough.

Exemplified in the manner of its seizure, and the cure.

3. Now in order to proceed in a proper manner to the particular method of cure, which experience shews to be requisite both in this cough and in those which happen in other years, provided they proceed from the same causes, it is to be observed that the *effluvia* which used to be expelled the mass of blood by insensible perspiration,

Particulars to be considered, preparatory to the method of cure.

Sect. 5. piration, are struck in, and thrown upon the lungs, from the sudden stoppage of the pores by cold, and, by irritating the lungs, immediately raise a cough. And the hot and excrementitious vapours of the blood being hereby prevented from passing off by perspiration, a fever is easily raised in the mass; namely, when either the vapours are so copious that the lungs are unable to expel them, or the inflammation is increased by the adventitious heat arising from the use of over-heating remedies, or too hot a regimen, so as suddenly to cause a fever in a person who was already too much disposed to one. But of whatever kind the *stationary fever* be which prevails the same year, and at that time, this new fever soon assumes its name, becomes of the same kind, and in most particulars resembles it; tho' it may still retain some symptoms belonging to the cough, whence it arose. In every cough, therefore, proceeding from this cause, it is sufficiently manifest that regard must not only be had to the cough, but likewise to the fever that so readily succeeds it.

The method of cure delivered.

4. Relying on this foundation I endeavoured to relieve such as required my assistance by the following method: if the cough had not yet caused a fever, and other symptoms, which, as we said, usually accompany it, I judged it sufficient to forbid the use of flesh-meats and all kinds of spirituous liquors, and advised moderate exercise, going into the air, and a draught of a cooling pectoral ptisan to be taken between whiles. These few things sufficed to relieve the cough, and prevent the fever, and other symptoms usually attending it. For as by abstaining from flesh and spirituous liquors, along with the use of cooling medicines, the blood was so cooled, as not easily to admit of a febrile impression, so by the use of exercise those hot *effluvia* of the blood, which strike in, and occasion a cough; as often as the pores are stopt by sudden cold, are commodiously exhaled in the natural and true way, to the relief of the patient.

Opiates, spirituous liquors, and heating medicines unsafe.

5. With respect to quieting the cough, it is to be observed that opiates, spirituous liquors, and heating medicines used for this purpose are equally unsafe; for the matter of the cough being intangled and stiffened thereby, those vapours which should pass off from the blood, in a gentle and gradual manner, by coughing,
are

are retained in the mass, and raise a fever (*d*). And Chap. 5. this frequently proves very fatal to abundance of the common people, who, whilst they unadvisedly endeavour to check the cough, by taking burnt brandy and other hot liquors, occasion pleuritic or peripneumonic disorders; and by this irrational procedure render this disease dangerous, and often mortal, which of its own nature is slight, and easily curable. Neither do they err less, tho' they seem to act more reasonably, who endeavour to remove the cause of the disease by raising sweat; for tho' we do not deny that spontaneous sweats frequently prove more effectual than all other helps in expelling the morbid cause, yet it is apparent that whilst we attempt to force sweat, we inflame the blood, and may possibly destroy the patient, whom we desire to cure (*e*).

6. But

(*d*) *Opiates* cannot be given with safety or advantage, unless copious evacuations have been already made; and ought not then to be administered without giving *nitre*, *crude sal ammoniac*, *fresh sweet oil*, and the like, at the same time.

(*e*) Our judicious author abounds with cautions against the very absurd and rash, but too common practice of attempting to force sweats by heating medicines (such as) *Venice treacle*, *Mithridate*, *the cordial confection*, *compound powder of crabs claws*, *spirit of hartshorn*, *volatile salt of hartshorn*, *volatile aromatic spirit*, *compound powder of contrayerva*, *saffron*, (and the like) in the beginning of acute inflammatory diseases, contrary to the plain dictates of reason, and the current of experience; for most certain it is, that instead of cooling and relieving the patient, they inflame the blood, quicken the circulation, exhale and waste the finest and smoothest parts of the fluids, and leave them in a thick, glewy, acrid, and undissolvable state, apt to form fatal obstructions in the smallest vessels, and to bring on violent and dangerous symptoms. — Such great mischiefs, (as one has well observed) are daily done by extorting sweats imprudently, that it should not be attempted without great caution and judgment; for nothing is more frequent than fevers of the most malignant kind, excited from very small beginnings, a cold, for example, or slight fever, which would have terminated in a few days without any assistance from medicine, by the imprudent use of heating medicines and diaphoretics.

Hippocrates, the prince of physicians, never advises the use of heating medicines, in the cure of acute distempers. *Sydenham*, the modern *Hippocrates*, learned from observation the bad effects of such remedies; and *Boerhaave* absolutely rejected them in such cases. But had they all approved them, I could not have so far distrusted my own senses as to submit to their opinion; for I have met with cases where patients have, in all appearances, been much relieved by evacuations; but upon the repetition of a few doses of *Sir Walter Raleigh's*

Sect. 5.

The cough
sometimes
joined
with fever-
ish sym-
ptoms.

6. But it happens sometimes, not only when the disease has been unskillfully treated, in the manner above described, but also spontaneously, at the beginning of the illness, or in a day or two afterwards, especially in tender and weakly persons, that the cough is succeeded by alternate intervals of heat and cold, a pain in the head, back, and limbs, and sometimes a tendency to sweat, especially in the night; all which symptoms generally followed the fever of this constitution, and were frequently joined with a pain of the side, and sometimes with a constriction, as it were, of the lungs, which occasioned a difficulty of breathing, stopped the cough, and increased the fever.

The fever-
ish sym-
ptoms,
how best
relieved.

7. According to the best observation I could make, the fever, and its most dangerous symptoms, were best relieved by bleeding in the arm, applying a blister to the neck, and giving a glyster every day (*f*). In the mean time, I advised the patient to sit up some hours every day, to forbear flesh meats, and sometimes to drink small-beer, sometimes milk and water, and sometimes a cooling and lenient ptisan. If the pain of the side abated not in two or three days, but continued

confection, or the *cordial confection*, as the college now term it, or something of the same nature, the heat has been violently increased, the tongue has grown black, and a *delirium* has come on, succeeded by death, whilst the patient has all the time sweated profusely at every pore. I am sensible that heating medicines were originally brought into practice by the chymical physicians, and a false theory; but I am inclined to believe that artifice has had a great share in their introduction, and custom and inattention have continued them; for their use undoubtedly renders more medicines, and more attendance necessary than any other method, and protracts a fever, which would, in all probability, terminate in a few days, to almost as many weeks. If men were statues, such treatment would be only wicked; but when rational creatures endowed with sensibility are designedly tortured by such a prostitution of science, language is too barren to represent such a conduct in its proper colours. See the *schedula monitoria* of our author, p. 516. & seq. *The medical essays*, vol. V. part II. p. 545.

(*f*) This seems to be the only proper time for applying a blister, when the fever is abated, and the violent symptoms relieved; and indeed unless the pulse be very low, and the heat moderate, blistering is needless, and will do harm. In inflammatory cases, therefore, blisters ought not to be applied, even though the head and nerves should be affected in the beginning of the distemper, till after large evacuations have been made by bleeding and purging.

very violent, I bled a second time, and advised the Chap. 5. continuance of the glysters. But with respect to glysters, it must be carefully observed, either in this or other fevers, that they are not to be long and frequently used when the disease is in its decline; especially in hysteric women, and in men that are subject to the hypochondriac disease; for the blood and juices of such persons are easily changed, and soon agitated and heated, whence the animal oeconomy is disturbed, and the febrile symptoms continued beyond the usual time.

8. But to return to our subject: whilst by this means we allowed time that the blood might gradually free itself from those hot particles that were lodged in the *pleura* and lungs, all the symptoms usually went off in a gentle manner; whereas when the disease was treated in a rough way, by giving abundance of remedies, it either destroyed the patient, or rendered it necessary to repeat bleeding oftener than the disease required, or would safely bear, in order to save his life. For tho' repeated bleeding answers every purpose in the true pleurisy, and is alone sufficient for the cure thereof, provided there be no hindrance from a hot regimen, and heating medicines; yet here, on the contrary, it sufficed to bleed once, or at most twice, in case the patient refrained from bed, and drank cooling liquors. And I never found it necessary to bleed more frequently, unless the symptoms relating to the *pleura* and lungs were much increased by some adventitious heat, and even in this case the practice was not wholly void of danger.

9. Upon this occasion I shall briefly deliver my sentiments with respect to a very trite and common opinion, *viz.* that a pleurisy is found to be of so malignant a nature in some years, that it will not then bear bleeding, at least not so often as this distemper ordinarily demands (*g*). Now tho' I conceive that a true and essential pleurisy, which, as shall hereafter be observed, happens indifferently in all constitutions, does in all

Rough methods, and abundance of remedies very pernicious.
A malignant pleurisy sometimes happens.

(*g*) I have more than once found this the case, and so have some physicians of my acquaintance likewise; so that it requires great skill, and a close attention to the peculiar epidemic fever of the year, to know when to bleed, how much blood to take away, and how often bleeding may be repeated with safety. But to be sure it ought not to be repeated, if the blood is rather florid than sily, and the first bleeding does not give the least relief.

years

Sect. 5. years equally indicate repeated bleeding; yet it sometimes happens that the peculiar epidemic fever of the year, from some sudden alteration of the manifest qualities of the air, readily throws off the morbid matter upon the *pleura* and lungs, whilst the fever notwithstanding continues exactly the same. Wherefore in this case, tho' bleeding may be used to abate this symptom when it is very violent, yet, generally speaking, little more blood ought to be taken away than is required by the fever whereon this symptom depends; for if the fever be of a kind that will bear frequent bleeding, it may likewise be repeated in the pleurisy, which is a symptom thereof: but if the fever will not bear repeated bleeding, it will prove prejudicial in the pleurisy, which will go off with, or last as long as the fever does. And in my judgment this was the case in the *symptomatic pleurisy* that accompanied the fever which prevailed here at the time the cough began, namely in winter, in 1675; and therefore I must observe that whoever, in the cure of fevers, hath not always in view the constitution of the year, inasmuch as it tends to produce some particular epidemic disease, and likewise to reduce all the contemporary diseases to its form and likeness, proceeds in an uncertain and fallacious way.

Repeated
and copi-
ous bleed-
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herein.

A pain in
the side,
removed,
&c. with
out repeat-
ed bleed-
ing.

10. In the month of *November*, of the above-mentioned year, I attended the eldest son of Sir *Francis Windham* in this fever. He complained of a pain in his side, and the other symptoms that attended those who had this disease. I bled him but once, applied a blister to his neck, injected glysters every day, gave him cooling ptisans and emulsions, and sometimes milk and water, or small-beer to drink; and advised his sitting up a few hours every day: and by this method he recovered in a few days, and a purge completed the cure.

The cough
without a
fever how
to be treat-
ed.

11. But it must be remarked, that tho' these were the common symptoms which succeeded the cough, during this winter, yet the cough, unattended with these symptoms, was more prevalent at the same time. But this required neither bleeding nor glysters, provided a fever was not occasioned by a hot regimen, or heating medicines; it sufficed to allow the benefit of the open air, and to forbid the use of flesh, wine, and such spirituous liquors,

liquors, which are apt to cause a fever. I likewise ordered the following troches to be taken often, which indeed are the best I know for stopping coughs occasioned by taking cold (*b*). Chap. 5.

Take of sugar-candy two pounds and a half; boil it in a sufficient quantity of common water till it sticks to the fingers ends: then add of powder of liquorise, elecampane, and seeds of anise and angelica, each half an ounce; powder of Florentine orrice root, and flower of brimstone, each two drams; oil of aniseed, two scruples; make the whole into troches with the requisite art; which the patient should always carry in his pocket, taking one of them frequently. Pectoral troches.

12. Before I conclude this essay on epidemic diseases, I must answer an objection that I foresee will be made to part of it, *viz.* that it does not seem sufficient to oppose the *malignity* that accompanies many of these diseases. It is not my design, nor am I able, to confute the received opinion of the learned, whether antients or moderns, in relation to *malignity*, since there are plain proofs of it in most epidemics (*i*). I only beg leave to give my sentiments of the nature of this malignity, to prove the reasonableness of my practice. For I may say with the very learned *Scaliger*, “ I do

(*b*) The troches here described and commended will do service in habitual coughs, unattended with a fever, where the matter requires to be thinn'd, in order to facilitate its expectoration. But where the matter is thin, acrimonious, and irritating, troches should be made of agglutinant, smooth, mucilaginous, and mild astringent ingredients: in both cases blistering freely is highly serviceable.—The following lohoch, from the *Edinburgh* dispensatory, is an excellent medicine to stop a cough occasioned by a thin, tickling rheum.

Take of fresh starch, two drams; japan earth, one dram; syrup of comfrey, and whites of eggs, beat into a thin liquor, of each one ounce. Mix them together, so as to make a lohoch.

(*k*) Malignant diseases are known by these signs: they begin with a slight coldness and shivering, a great loss of strength immediately ensues, and the pulse at the same time is small, quick and contracted; an erect posture easily occasions fainting, the patient is perpetually drowsy but cannot sleep, and if he does, a greater decay of strength succeeds thereupon, with a *delirium*; he complains of no great pain, thirst, or other troublesome symptom, and yet is uneasy, and at length the extremities grow cold, the pulse begins to intermit, and can no longer be perceived in the wrist, and death is at hand.

Sect. 5. “ not contend for my own opinion, but for reason, or
 “ what carries the appearance of it, without regarding
 “ what some censorious persons assert”.

Malignity
 explained.

13. I conceive then that the malignity in epidemics, whatever its specific nature be, consists and centers in very hot and spirituous particles, that are more or less opposite to the nature of the circulating fluids, because such particles only are capable of producing so sudden an alteration of them, as is frequently observed in malignant diseases. And I judge that these hot and spirituous particles act chiefly by way of assimilation; because by the law of nature every active principle endeavours to produce its like, and to reduce and mould whatever opposes it to its own nature. Thus fire generates fire, and a person seized with a malignant disease infects another by an emission of spirits, which soon assimilate the juices to themselves, and change them into their own nature.

In what
 kind there-
 of sweating
 is proper.

14. From these considerations it follows that it is best to expel these particles by sweat, since by this means the disease would be immediately eradicated. But experience contradicts this, and shews it cannot be done in every kind of malignity. For tho' in the *plague*, the pestilential particles, both by reason of their exceeding subtilty, and their residing in the most spirituous parts of the blood, are dissipable, and may be expelled by a continued sweat; yet in other fevers, where the assimilating particles are less subtil, and mixt with grosser humours, the malignant fuel cannot only not be expelled by sweat, but is frequently increased by the diaphoretics given to promote it. For the more active those hot and spirituous particles are rendered by heating medicines, the more is their power of assimilating increased; and the more likewise those juices are heated whereon they act, so much the more readily are they assimilated, and yield to the impressions thereof. Whereas contrariwise, it is reasonable to think that medicines of an opposite nature do not only restrain the action of the hot and acrid particles, but likewise thicken and strengthen the juices, so as to enable them to undergo, or even to conquer the force of the morbid spirits. And here I may appeal to experience, which hath taught me that the purple spots in fevers, and the black eruptions in the small-pox, increase more readily in proportion as the

patient is heated; and that according to the coolness of Chap. 5. the regimen employed, which is very suitable to them, they are used to decrease and be diminished.

15. Now were it to be inquired whence it happens, since malignity consists in such hot and spirituous particles, that so few signs of a fever are frequently found in the most malignant diseases; it might be answered, first, that in the *plague*, the most remarkable instance of malignity, the morbidic particles are so very subtle, especially in the beginning, that they pass thro' the blood with the utmost velocity, and (the spirits being as it were fixed or congealed) raise no ebullition therein, whence the patient dies without a fever.

Why malignant diseases have often few febrile symptoms.

16. But in other epidemics, accompanied with a less degree of malignity, the febrile symptoms are sometimes so slight, from the disturbance raised in the blood by the morbidic particles contained in the mass, that nature, being in a manner oppressed, is rendered unable to produce the more regular symptoms that are suitable to the disease, and almost all the phenomena that happen are irregular, by reason of the entire subversion of the animal œconomy; in which case the fever is often depressed, which of its own nature would be very high. Sometimes also fewer signs of a fever appear than the nature of the disease requires, from the translation of the malignant cause, either to the nervous system, to some other parts of the body, or to some of the juices not contained in the blood, whilst the morbidic matter is yet turgid.

17. But which way soever it be, I cannot even so much as conjecture what other method of cure ought to be used to conquer the malignity, besides that which is suitable to the epidemic wherewith it is joined. So that whether the epidemic be of the number of those wherein the febrile matter must first be concocted, and soon after properly expelled by sweat; or of those that are terminated by some eruption, or of those that require the assistance of art to make way for them: in all these kinds, the malignity, which is the concomitant of the disease, will rise, and sink, continue, and go off with the original disease; and consequently whatever evacuation agrees in general with the fever, agrees likewise with the malignity, how much soever these evacuations may be of a contrary nature to each other. Hence the malignity that accompanies autumnal inter-

Malignity, how most conveniently conquered.

Sect. 5. miltents, and also the continued fever, which is of the same nature, will yield to a sweat, which follows concoction as its effect. And the seasonable suppuration of the pustules in the small-pox will carry off the malignity attending that disease, and so of the rest: in all which the peculiar species of malignity is best overcome by those methods which prove most successful in the cure of those diseases whereto it belongs, whether by this or any other procedure. This appears evident to me from reason, and is likewise universally confirmed by experience.

C H A P. VI.

The Recapitulation.

Five kinds of constitutions described in the foregoing see.s.

I. **A**ND thus we have, at length, shewn, that the space of years which furnished us with the preceding observations produced five different kinds of constitutions, that is, five peculiar dispositions of the air, productive of as many peculiar epidemic fevers. But the first of these fevers, which prevailed in those years wherein autumnal intermittents chiefly raged, seems to be the only one, as far as I have hitherto observed, in which nature regulated all the symptoms in such manner as to fit the febrile matter, prepared by proper concoction, for expulsion, in a certain time, either by a copious sweat, or copious perspiration; and upon this account I call it the *depuratory fever*. And in reality I am inclined to believe, that this is the capital and *primary* fever of nature, as well with respect to the regular method which nature uses in promoting and accomplishing the digestion of the morbid matter in a limited time, as also because it occurs more frequently than other fevers.

Intermittents, the most frequent disorders.

2. For it is probable that intermittent fevers oftener prevail epidemically than all other diseases, if those authors may be credited who have wrote so largely of their frequency in former ages, whatever may be the reason of their appearing so seldom since the plague depopulated this city; for the pestilential fever was the forerunner of all the inflammatory fevers that afterwards succeeded. But I am mistaken if the necessary and excellent aphorisms,

rifms, left us by *Hippocrates* and other antient phyfici- Chap. 6.
 ans, are not adapted to the *primary* fever abovemention-
 ed, by means of which it is to be fo regulated, that the
 febrile matter may be prepared for a proper *crifis* by
 sweat: nor do I perceive how thefe aphorifms can be
 adapted to the fucceeding kinds of fevers, which being
 of a very different nature are rarely cured by fuch a me-
 thod, as enables us to cure thofe difeafes, provided we
 embrace and purfue it to the end. But however this
 be, it is worth obferving, that this fever, which de-
 pended on that conftitution wherein intermittents pre-
 vailed over the reft (if it proved of long continuance, or
 if the patient was weakened by large evacuations) fome-
 times changed to an intermittent; whereas the fevers
 that prevailed in the following years, tho' they conti-
 nued very long, fcarce ever became intermittent; which
 was a pretty clear proof, that the continued fever
 and thofe intermittents differed little in their nature
 from each other.

3. Now if I fhould be asked in what manner the
 fpecies of a continued fever may be gathered from the
 figns fet down by me in the defcription of fevers, fince
 every particular fever is moftly attended with thofe
 fymptoms which all fevers have in common, as heat,
 thirft, reftleffnefs, and the like; I anfwer, it is indeed
 difficult, but not impoffible, in cafe all the circum-
 ftances enumerated in the preceding hiftory be thorough-
 ly attended to, efpecially to a phyfician refiding in a
 city, or other populous place. For let us fuppofe that
 he is called to attend a perfon in a continued fever; he
 has this in the firft place to affift him to form a right
 judgment of the fpecies, *viz.* (1) he may eafily learn,
 either from his own obfervation, or the relation of
 others, what other difeafes befides this fever, rage epi-
 demically in thofe places, and of what kind they are;
 which being known, he will be no longer in doubt of
 what kind that fever is, which accompanies the other
 then reigning epidemic. For tho' the fever may pof-
 fibly appear with fuch fymptoms only as are common
 to all fevers, efpecially if it be difturbed by a method of
 cure directly contrary to it, yet other epidemics will
 clearly difcover the figns that are peculiar to its nature
 and genius.

The fpe-
 cies of a
 fever, how
 difcovered.

4. Thus,

Sect. 5. 4. Thus, for instance; whoever sees the small-pox; and is well acquainted with the history of it, will easily conjecture, either by the day on which the eruptions came out; or by their size, colour, and the like, to what kind of *small-pox* this particular sort is to be referred; and when he has once discovered that sort of small-pox which prevails chiefly in that year, and in those places, he will be no stranger to the species of any fever that then and there prevails. And undoubtedly if I were perfectly acquainted with the history of diseases, which I do not pretend to, as I should not scruple, upon seeing any epidemic, to declare of what kind the reigning fever of that time was; tho' I had never seen it, so likewise having seen any fever, it would sufficiently teach me what epidemic accompanied it; viz. if the measles, small-pox, or dysentery, &c. For some particular species of these diseases; as well as a peculiar fever, constantly attends every particular constitution.

5. (2) Besides the signs, which an attention to the contemporary epidemics affords, the symptoms of every fever let in some light for discovering the species thereof. For tho', as we intimated above, all fevers have some symptoms in general, yet there are certain distinguishing signs which nature has particularly affixed to every species; but as these are more latent and obscure, they are usually discovered only by very diligent and accurate observers (*k*). Amongst these distinguishing signs, I have

(*k*) The scientific knowledge of diseases cannot be so effectually promoted and improved by any other means, as by making accurate observations, and carefully registering and publishing them; which the physicians of those truly charitable and excellent foundations, our *publick hospitals*, are best qualified to perform, as they have the most and best opportunities of doing it.

For in these houses every thing is so much under their immediate inspection and direction, that they may be morally certain of seeing the genuine and natural progress of diseases through all their stages; and of all their usual symptoms, of observing the motions and tendencies of nature, making a fair trial of the virtues and efficacy of medicines, discovering the inconceivable advantages of a proper regimen, strictly pursued, the benefit of cold and warm bathing, &c. and what standing method of cure best suits each particular distemper.

What valuable and extensively beneficial discoveries might not be hoped for, then, from the sagacity, labour, and manifold experience of *hospital physicians*, if they had as much leisure,

I have always reckoned that *sweating* or *dryness*, at a Chap. 6.
particular time of the disease, chiefly shewed the species
of the fever, in case the fever had not been forced Sweating
from its own natural state by an improper method. or dryness
And this manifestly appeared to me in all the epidemic principal
fevers, which have been treated of in these observations. distinguishing
signs.

6. To give some instances of this: in those fevers Exempli-
which prevailed upon the decline of autumnal inter- fied.
mittents, the external parts were dry, nor was there
the least sign of sweat before the concoction of the
febrile matter, which was generally compleated on the
fourteenth day: and in this case it was very dangerous
to raise a sweat; a *delirium*, and other fatal symptoms
being immediately occasioned thereby. In the pestilenti-
al fever, which followed this, and preceded all the sub-
sequent inflammatory fevers, no spontaneous sweat ap-
peared, but a sweat might be raised in the beginning,
sure, as some of them, to my knowledge, have inclination
to oblige the world with them? But as a considerable part of
their time must needs be taken up in attending their other pa-
tients, it were to be wished that they had such salaries allowed
them, as might enable them to subsist decently without any
other business.

To shew I am not singular in my opinion, I will transcribe
a passage or two to the same effect from the ingenious Dr
Clifton's state of physic antient and modern.—Speaking of a plan for
improving physic, he says, p. 166. — “This I apprehend may
“be brought about by physicians rejecting every thing that is
“doubtful or perplexed, and cultivating the business of ob-
“servations, in the best manner it is capable of. By this
“means we shall come (if ever we can come) to the true
“knowledge of diseases, and the readiest method of curing
“them.”—And therefore, in order to collect *facts* enow to
ground a good *system* upon, he advises, p. 171. — “That
“three or four persons of proper qualifications should be em-
“ployed in the hospitals (where there are the greatest variety)
“to set down the cases of the patients there from day to day,
“candidly and judiciously, without any regard to private opi-
“nions, or publick *systems*, and at the year's end to publish
“these *facts*, just as they are, leaving every one to make the
“best use of them he can for himself. Would not some such
“method as this (he goes on) let us more into the nature of
“diseases in a few years, than all the books of *theories*, or
“even the books of *observations*, hitherto published? Cer-
“tainly it would: and yet if proper encouragement was gi-
“ven, it is not at all unlikely, but that persons enow would
“soon be found, every way qualified for such an undertaking.
“And if even good salaries were allowed them, and every
“thing made as easy and agreeable to them as they could de-
“fire, the benefit the publick would receive from them would
“vastly more than balance the expence.”

Sect. 5. by exhibiting sudorifics, and as soon as it flowed all the symptoms went off. In the next succeeding fever, which accompanied the small-pox in those years wherein it proved regular, the patient was subject to profuse spontaneous sweats in the beginning of the illness, but by encouraging them, all the symptoms were increased. In the two fevers that accompanied the two irregular kinds of the small-pox, and the dysentery, the sweat was likewise irregular, and generally appeared only in the beginning of the disease, tho' the sweat which accompanied the former fever, was somewhat more copious than that which accompanied the latter; but neither afforded any relief, because the sweat proceeded not from previous concoction, but from the confused motion of the noxious particles.

7. But it seems exceeding difficult to me to discover the species of a new fever in the first year of a constitution, when no body has seen an example of it, or can imagine what epidemic diseases may hereafter arise, which are generally preceded by this fever. It would be tedious to enumerate all the particulars that occurred in those years of which I have treated, whereby it might appear that many manifest signs were suggested by nature, to enable us to make such discovery; and consequently this knowledge necessarily depends upon a careful and accurate observation of all circumstances.

8. But tho' it be difficult, if not impossible, to ascertain the species of a new fever at its first coming, yet with respect to the cure, the indication to be taken from such things as do good or mischief, at least remains to assist us therein; by means of which we may by degrees find out a way to secure the patient, provided we do not hurry on too fast, which indeed I esteem to be most particularly pernicious, and to have destroyed more persons in fevers than any other thing whatsoever. Nor do I think it below me to acknowledge, with respect to the cure of fevers, that when no manifest indication pointed out to me what was to be done, I have consulted the safety of my patient, and my own reputation, most effectually, by doing nothing at all; for whilst I carefully attended to the disease, in order to cure it in the best and safest manner, the fever either went off gradually of itself, or came to such a state as shewed what medicines were to be used to remove

it (1). But it is much to be lamented that abundance of sick persons are so ignorant, as not to know that it is sometimes as much the part of a skilful physician to do nothing at all, as, at others, to exhibit the most effectual remedies; whence they not only deprive themselves of the advantages of a fair and honourable procedure, but impute it either to negligence or ignorance; whereas the most illiterate empiric knows how to heap medicine on medicine as well as the most prudent physician, and usually does it in a much greater degree. Chap. I.

9. And now I have communicated the observations I have hitherto made (at least such as could be brought into some method) with respect to the species of *epidemic diseases*, and the order wherein they succeeded from 1661 to the end of 1675; when the small-pox and the continued fevers, which accompanied it, and had prevailed for near two years, became more gentle, and seemed to be going off. As to the diseases that may hereafter succeed, they are only known to that omniscient being from whom nothing is hid.

S E C T. VI. C H A P. I.

Of intercurrent Fevers.

I. THE observations of the preceding years, above delivered, sufficiently shew that some fevers are deservedly entitled *stationary fevers*; I mean such as arise from some peculiar constitution of a particular year not yet sufficiently known. Every one of these prevails in its order, and rages with great violence, having, as it were, the ascendant over all the rest, during that continued course of years. Whether *Stationary fevers prevail according to their order.*

(1) What can set our judicious author in a more amiable point of light, than this open and honourable procedure? His great integrity in acting thus, and singular candour in owning it, are deserving of the highest praise, and of general imitation. It is manifest from this and several other instances of the same kind which occur in his writings, that he had acquired such deep-rooted and confirmed habits of virtue, as rendered him superior to the strongest attacks of temptation; and in particular that he was a man of inflexible *probity*, that essential quality of a good physician, which *Hippocrates*, though a pagan, makes a part of his character in his celebrated definition of one.

Sect. 6. there are any other species, besides those just mentioned- or whether they succeed each other in a certain term of years in a constant and invariable order, or whether it be otherwise, I have not yet been able to discover. But there are also other continued fevers, which, tho' they sometimes rage less, and at other times more severely, yet because they are mixed with all kinds of *stationary* fevers, and likewise with each other indifferently in the same year, I conceive they should be called *intercurrents*. I shall in the following sheets communicate all that I have learnt from observation concerning the nature of these fevers, and the method of curing them: they are, the *scarlet fever*, *pleurisy*, *bastard peripneumony*, *rheumatism*, *erysipelalous fever*, *the quinsy*; and, perhaps, some others.

Intercurrents mixt with these and each other indifferently.

Intercurrents enumerated.

The *fever* the original disease in all.

2. But as all these diseases are, during their state, or at least were, accompanied with a fever, till it went off, the febrile matter being thrown upon some particular part, according to the nature of the distemper, I question not that the fever is to be accounted the primary disease, and that the other disorders whence those diseases generally derive their name, are symptoms, which chiefly regard either the peculiar manner of the *crisis*, or the part principally affected. But provided the thing be agreed upon, I will not contend about names; tho' I take the liberty to call a disease by the particular name, which pleases me best (*m*).

Intercurrents are sometimes epidemic.

3. It must be observed, that as the *stationary fevers*, of which we have treated above, prevailed more or less

(*m*) Whoever is but slightly acquainted with the writings of physicians, cannot but have observed their confusion and disagreement in this matter. Diseases are multiplied and subdivided without necessity, and new names assigned to not a few, to the great perplexity of the reader. Thus, for instance, to what a vast number have the diseases of the eyes been swelled by some authors; whereas, by a few plain questions, they might be reduced to a much narrower compass, and much better specified, *viz.* Is the eye inflamed? Is the retina affected? Is there a cataract? So with regard to *eruptions*, of which there are innumerable kinds, it may be asked: --- Are they *scorbutick*, *venereal*, or *inflammatory*, &c.? The ascertaining to which class they properly belong, would convey a just notion of them, and determine at once how they were to be treated. The singular advantage and usefulness of this simple method will manifestly appear to the learned reader that will take the pains to look into *Heister's compendium medicinae practicae*.

epide-

epidemically, as we said, according as they were favoured by the constitution of years, resulting from a secret and inexplicable temperature of the air; so likewise did these *intercurrents* sometimes, but less frequently. For tho' they generally arise from some peculiar disorder of particular bodies, whereby the blood and juices are some way vitiated, yet sometimes they proceed *mediately* from some general cause in the air, which, by its manifest qualities, so disposes the human body, as to occasion certain disorders of the blood and juices, which prove the immediate causes of such *epidemic intercurrents*. As for instance, when a sharp frost, which has lasted a long time, and continues late in the spring, is suddenly succeeded by warmer weather, *pleurisies*, *quinsies*, and the like diseases usually arise, whatever be the general constitution of the year. And because these diseases, which happen indifferently in all years, do sometimes rage as epidemically as those which continue only for a certain course of years, we chuse to call them *intercurrents*, in order to distinguish them from the latter.

4. But notwithstanding the considerable difference there is between these two kinds of fevers, with respect to the causes proceeding from the air, yet they frequently agree in other external and *procatarctic* causes. For not to mention *infection*, which sometimes communicates stationary fevers, and *surfeits*, which give rise to both stationary and intercurrent fevers, the manifest external cause of the greater part of fevers is to be sought for hence; either (1) a person hath left off his clothes too soon, or (2) imprudently exposed his body to the cold after being heated with violent exercise; whence the pores being suddenly closed, and the perspirable matter retained in the body, that would otherwise have passed thro' them, such a particular kind of fever is raised in the blood, as the then reigning general constitution, or the particular depravity of the juices, is most inclined to produce. And indeed I am of opinion, that abundance more have been destroyed by this means than by the *plague*, *sword*, and *famine* together; for if a physician examines his patient strictly concerning the first occasion of the disease, he will generally find it to proceed from one of these causes, provided it be of the number of those acute diseases we have treated of above. Upon this account I always advise my

Wherein
stationary
and inter-
current
fevers
agree.

Most fe-
vers occa-
sioned of
catching
cold.

Se^ct. 6. friends never to leave off any wearing apparel till a month before midsummer; and not to expose themselves to the cold after being heated by exercise.

Most inter-
currents
are essential
diseases. 5. But it must here be carefully remarked, that tho' the diseases I am now to treat under the title of *Intercurrents*, were most, if not all of them, *essential* diseases; yet frequently certain disorders happen in *stationary* fevers, resembling these *intercurrents* as to the phenomena, and likewise characterized by the same name, which however are manifest symptoms of those

When not
so, how
they are to
be treated. fevers. Now in this case they are not to be treated by the method which is to be used when they are essential diseases, but rather by that which the fever requires, whereof they are now symptoms, which method is only to be slightly adapted to their particular cure: but, in general, great attention is to be had to the fever of the year, and to find out the easiest method of conquering it, whether by bleeding, sweating, or any other procedure: for if this be disregarded, we shall frequently mistake, to the great detriment of the patient. Should it be objected that the disorders under consideration, which I term *essential*, are in reality only symptoms, I reply, that perhaps they may be symptoms with respect to the fever whereto they properly belong, but they are at least symptoms of fevers which always necessarily produce them. To exemplify this matter: in an *essential pleurisy* the fever is of such a nature, as always to deposite the morbid matter upon the *pleura*; in an *essential quinsy*, of such a nature as always to throw off the morbid matter upon the throat; and thus it happens in the rest: whereas when any one of the above-mentioned diseases succeeds a fever that belongs to a particular constitution of years, and is dependent thereupon, it is then produced *accidentally* only, and no way necessarily: for which reason there is a remarkable difference between them.

Essential
and sympto-
matic dis-
orders
how to be
disting-
guished. 6. But, in order to distinguish rightly between *essential* and mere *symptomatic* disorders, it is of moment to consider that the same symptoms which accompany any particular *stationary fever* at the beginning, will likewise happen at the same time in a *pleurisy*, or *quinsy*, when these are only accidental symptoms of such a fe-

ver.

ver (n). We had a proof of this in the abovemention- Chap. 1.
 ed *symptomatic pleurisy*, that succeeded the fever which
 prevailed in this winter of 1675. For all that were
 seized with the *pleurisy*, were afflicted, in the begin-
 ning, with a pain in the head, back, and limbs;
 which were the most certain and common symptoms of
 all those fevers that preceded the *pleurisy*, and continu-
 ed after that disease went off. Whereas when either of
 these *intercurrents* is the *essential* disease, it attacks in
 the same manner in all years indifferently, having no-
 thing at all in common with the then prevailing *sta-*
tionary fever. Besides, all the symptoms that after-
 wards arise are more apparent, as not being concealed
 and perplexed by a mixture of other phenomena, of a
 different nature, and belonging to another fever. Again,
 the time of the year, wherein the greater part of *essen-*
tial intercurrents usually make their appearance, fre-
 quently points out the kind of disorders whereto they
 should be referred. But, lastly, he is best qualified to
 discover the diagnostic signs, both of these, and all other
 diseases, who, by daily and diligent observation, hath
 searched so intimately into their nature and symptoms,
 as at first sight to be able to distinguish the *genus*; tho'
 perhaps the characteristic differences of some of them
 may be so very subtle, that he cannot express them by
 words to another.

7. But as these different species of fevers, so far as I
 can learn by carefully considering their concomitants,
 and the method of cure, proceed from an inflammation
 of the blood, peculiar to every disease, I place the
 principal part of the cure in cooling the blood. In the
 mean time I always endeavour to expel the morbid
 matter, by a method of cure, varied according to the
 nature of the disease, and which experience shews to be
 readily curative of the particular species thereof. In re-
 ality whoever certainly knows how to expel the febrile

I These dif-
 ferent spe-
 cies of fe-
 vers how
 to be treat-
 ed.

(n) *Essential* diseases are those which are always attended
 with such a peculiar and distinguishing train of symptoms, as
 manifestly appear more or less in every person that is seized
 with them, and depend upon the genuine and invariable nature
 of each respective disease. But in *symptomatic* diseases, the con-
 comitant symptoms are accidental and common to other di-
 stempers, and not always necessarily present, and differ accord-
 ing to the different constitution, age, sex, and manner of liv-
 ing of the persons affected.

Sect. 6. matter, either by bleeding, sweating, purging, or any other more proper way, must have the best success in the cure of all fevers.

C H A P. II.

Of the scarlet Fever.

Rise and
symptoms
of the scar-
let fever.

I. **T**HO' the *scarlet fever* may happen at any time, yet it generally comes at the close of summer, when it seizes whole families, but especially children. (1) A chillness and shivering come at the beginning, as in other fevers, but without great sickness; (2) afterwards the whole skin is covered with small red spots; which are more numerous, larger, and redder, but not so uniform as those which constitute the measles: (3) they continue two or three days, and after they are vanished, and the skin is scaled off, there remains a kind of branny scales, dispersed over the body, which fall off, and come again for twice or thrice successively.

The me-
thod of
curing it.

2. As this disease seems to me to be nothing more, than a moderate effervescence of the blood, occasioned by the heat of the preceding summer, or some other way, I do nothing that may prevent the despumation of the blood, and the expulsion of the peccant matter thro' the pores, which is quickly enough performed. Accordingly, I refrain from bleeding, and the use of glysters, which make a revulsion, whereby I conceive the noxious particles are more intimately mixed with the blood, and the motion which is more agreeable to nature is checked. On the other hand I forbear cardiacs, by the heat of which the blood may perhaps be put into a more violent motion, than so gentle and mild a separation as effects the cure requires; and besides by this means a high fever may be occasioned. I judge it sufficient for the patient to refrain wholly from flesh, and all kinds of spirituous liquors, and to keep his room, without lying always in bed. When the skin is entirely peeled off, and the symptoms vanished, it is proper to give a gentle purge, suited to the age and strength of the patient. By this plain and manifestly natural method, this disease in name only, for it is little more, is easily cured, without trouble or danger.

Whereas

Whereas on the contrary, if we add to the patient's evils, either by confining him continually in bed, or exhibiting abundance of cardiacs and other superfluous remedies, the disease is immediately increased, and he frequently falls a victim to the over-officiousness of the physician. Chap. 3.

3. But it should here be observed, that when epileptic *convulsions*, or a *COMA*, arise in this disease at the beginning of the eruption, which sometimes happen to children and young persons, it is highly proper to apply a large and strong blister to the neck, and immediately exhibit a paregoric of *syrup of white poppies*, which is to be repeated every evening during the illness; and he must be directed to make use of milk, boiled with thrice its quantity of water, for his ordinary drink, and to refrain from flesh.

What to be done if *convulsions*, or a *COMA* attend the beginning of the eruption.

C H A P. III.

Of the Pleurisy.

I. **T**HIS disease, which is one of the most frequent, happens at any time, but chiefly between spring and summer; for the blood, being then heated by the fresh approach of the sun, is much disposed to fermentations, and immoderate commotions. It chiefly affects the sanguine, and frequently also attacks country people, and such as have been used to hard labour. It generally begins (1) with a chillness and shivering, which are followed (2) by heat, thirst, restlessness, and the other well-known symptoms of a fever; (3) in a few hours (tho' sometimes this symptom comes much later) the patient is seized with a violent pungent pain in one side, near the ribs, which sometimes extends towards the shoulder-blades, sometimes to the spine, and sometimes towards the breast; (4) a frequent cough, likewise, afflicts the patient, and occasions great pain by shaking and distending the inflamed parts, so that he sometimes holds his breath to prevent the first efforts of coughing; (5) the matter expectorated, at the beginning of the disease, is small in quantity, thin, and often streaked with blood; but in the course thereof it is more copious, and more concocted, and likewise mixed

When a *pleurisy* arises, and whom it chiefly affects. Its symptoms.

Sect. 6. ed and coloured with blood ; (6) in the mean time the fever keeps pace, and even grows more violent with the symptoms arising therefrom : till at last, in proportion to the freer expectoration of the morbid matter, both the fever and its dreadful concomitants, as the *cough*, *spitting of blood*, and *pain*, &c. abate by degrees (o).

2. (7) But the matter productive of this disease does not always undergo such a concoction in the course thereof, as fits it for expectoration ; for it frequently remains thin, and only a small quantity is expectorated, as in the beginning, and consequently the fever and its concomitants remit not at all till they prove mortal (p).

(8) In the mean time, the belly is sometimes too costive, and at others too soluble, the stools being both frequent and very liquid ; (9) sometimes, when the disease proves extremely severe, and bleeding has been omitted, the patient cannot so much as cough, but having a great difficulty of breathing is almost suffocated by the violence of the inflammation, which is sometimes so very considerable, that he cannot dilate his breast sufficiently for respiration, without very acute pain (q).

(10) And

(o) A pleurisy is excellently described by *Aretæus* in these words : “ An acute pain accompanies it, which reaches to the throat, and in some to the back and shoulders ; it is succeeded by a difficulty of breathing, watching, *nausea*, redness of the cheeks, and a dry cough ; the spittle is difficultly expectorated, and is either phlegmy, very bloody, or yellowish. It is worse if the spittle be not bloody, or a *delirium*, or a *coma* come on.” He tells us farther, that persons in this disease recover or perish, according to the vehemence of the symptoms, within the *seventh* or the *fourteenth* day : or, in case the distemper runs on to the *twentieth*, are seized with an *empyema*. See *Aretæi oper. lib. 1. cap. x.*

(p) It is worth observing here, that pleurisies of all kinds, from the gentlest to the most violent, are frequently met with in practice, which are not accompanied with even the slightest expectoration through all their stages, so that neither the physician or patient ever once have it in their thoughts ; and these pleurisies are not at all more dangerous than those attended with expectoration.

(q) The causes of this symptom being very accurately and clearly pointed out by *Dr Hoadley*, we shall transcribe his sentiments relating thereto. The lungs, says he, may be prevented from dilating and contracting, with perfect ease and freedom, both externally and internally. They may be prevented externally, first, by adhering to the *pleura* ; and secondly, by a quantity of extravasated fluid, taking up a part of the cavity, and not allowing them room to play.

First, as to the adhesion of the lungs to the *pleura*. This is

(10) And sometimes when the inflammation has been violent, and bleeding omitted (r) which should have been used

so common a case, that I believe the number of those who upon dissection are found with adhesions, greatly surpasses the number of those without them; but then these adhesions are of small extent, except in very diseased bodies.

Whilst the adhesion is thus of a small extent, and the body is in a tolerable degree of health, the lungs are able to play with sufficient freedom, and respiration is but little disturbed by it. But when it has spread itself to a great extent, and the lungs and *pleura* are inflamed, it not only greatly interferes with the action of respiration, but increases the distemper itself.

In this case, the most certain symptom to determine us that there is such an adhesion, is the patient's being able to lie on one side only without pain, and with tolerable ease and breathing; and the adhesion is always on the side on which the patient lies with ease.

For, first, when the patient lies on the opposite side, the weight of the whole lobe that adheres, acts in a direction to tear it away from the *pleura*; whereas, when he lies on the same side with the adhesion, there is no such endeavour towards a separation.

And, secondly, when there is an adhesion, and the parts are inflamed, the action of respiration should, for the ease of these parts, be carried on by a freer motion of the ribs on the other side; but when the patient lies on that other side his posture not only prevents that side from relieving the other, by preventing the free motion of the ribs he lies on, but even obliges the diseased side to perform the greatest part of the action of respiration: which must necessarily rather increase than alleviate the pain and uneasiness in breathing.

Sometimes there are adhesions on both sides the breast, which for the same reasons give little or no trouble in respiration, before some other disease of the lungs or *pleura* arises; and when this disease produces an inflammation or imposthuration, one side is generally more affected than the other; and, consequently, very nearly the same symptoms will appear, as when the adhesion was on one side only.

In lungs, which have been diseased for a long time, the adhesion gradually spreads, and sometimes becomes universal. This is a case I have myself seen more than once, and requires our attention. See his *Lectures on the organs of respiration*, p. 76, 77.

(r) The cure of this disorder chiefly consists in bleeding; which is highly advantageous, not only in young persons, but likewise in the aged, because in general the latter are fuller of blood, and their blood is also thicker, and more tenacious, and occasions more intense inflammations, whence if the strength will permit, bleeding may be repeated in them. Great care should be had to proportion the bleeding to the strength, and quantity of blood, so as neither to take away too little, nor too much; for the latter not only checks expectoration, but the obstruction to be opened is more confirmed thereby, or degenerates

Sect. 6. used at the beginning, an imposthume is soon occasioned, the matter being emptied into the cavity of the breast, in which case, tho' the original fever either goes off entirely, or at least abates, yet the danger is not over; for an *empyema* and an *hectic fever* succeed, and the patient is destroyed by a *consumption*.

A pleurisy
sometimes
symptoma-
tic.

3. Now tho' the *pleurisy* proceeds from that peculiar and specific inflammation of the blood, which usually produces it when it is a primary disease, yet it sometimes accidentally succeeds other fevers, of whatever kind they be, occasioned by the sudden translation of the febrile matter to the *pleura*, or intercostal muscles (*s*). This indeed happens in the very beginning of the fever, whilst the febrile matter is yet in a state of crudity, and not overcome by a due ebullition, and consequently not fitted for a proper separation by the most convenient out-lets. But it is most frequently caused by an unseasonable use of such heating medicines, as are usually given by some great ladies to persons in low circumstances; whose charity, in the mean time, nerates into a mortification; and the former does little service, the blood in the mean time flowing more freely to the part affected, and the obstruction increasing with the inflammation. See *Hoffman. Med. rat. systemat. tom. quart. pars 1. p. 435.*

To this we shall subjoin an excellent remark of Dr *Huxham's* about bleeding in pulmonic diseases. Bleeding, says he, is so far from being serviceable in pulmonic diseases, where expectoration is sufficiently easy and quick, that it often totally checks it; consequently it is no way indicated to be of use, unless there be an apparent *plethora*, or an acute pain, a difficulty of breathing, or a spitting of pure blood be so urgent as to require it. See his treatise *De aere & morbis epidemicis*, p. 52.

(*s*) The inner surfaces of the ribs, and intercostal muscles, and diaphragm, and the whole external surfaces of the lungs and *pericardium*, are most exactly covered by the *pleura*; which is a smooth, strong membrane, stretched over, and lining the whole cavity of the breast, and forming by its duplicatures the *mediastinum*, which divides the cavity into two.

This membrane, when it is in perfect health, is pliable in every part of it, that it may conform itself to the perpetual motion of all the parts it covers; but as it is furnished plentifully with arteries, veins and nerves, it must be liable, like other parts of the body, to obstructions, inflammations, pain and suppuration; and therefore whenever it is in any part of it afflicted with any of these disorders, it must necessarily very remarkably disturb the action of the parts it is stretched over, and, according as the part affected is applied to the ribs, or diaphragm, the latter, or the former will be obliged to perform the greater share in the action of respiration. See Dr *Hoadeley's* lectures on the organs of respiration, p. 71, 72.

would

would be much better placed in feeding the necessitous, Chap. 3.
 than in curing their diseases. But this, it seems, they do, }
 to raise sweat, at the beginning of the disease, little
 dreaming of the ill consequences thence arising. For
 nature, being hereby disturbed, is forced to expel the
 yet crude humours thro' the first passage that offers ;
 whence the febrile matter is sometimes hurried violent-
 ly to the *meninges*, and occasions a *delirium*, and some-
 times to the *pleura*, and occasions a pleurisy ; especially
 when the age, constitution of the patient, and the
 season of the year, namely that between spring and
 summer, jointly concur thereto : for in that season fe-
 vers are apt to turn to pleurisies.

4. Now the colour of the blood that is taken away Remarks
 in a pleurisy, seems to shew that this disease arises from on the
 the sudden translation abovementioned, for at the second blood in
 bleeding at least, the blood, when cold, looks like melted this di-
 tallow to a considerable thickness, but the top resembles stemper.
 true *pus*, and yet it is very different from that, as being
 very fibrous like the rest of the blood, and not fluid like
pus ; and upon separating this part from the rest, it ap-
 pears like a tough fibrous skin ; and perhaps it is only
 the sanguineous fibres, which having lost their natural
 red covering by precipitation, have hardened into this
 whitish membrane or pellicle by the coldness of the air ;
 but let it be observed here, by the way, that tho' the
 blood flows ever so fast, yet if it does not stream hori-
 zontally from the open vein, but runs perpendicularly
 down along the skin, it is frequently of another colour,
 which I confess I cannot account for, and such a bleed-
 ing is also less serviceable. I have likewise observed
 that if blood, that is newly taken away, be stirred a-
 bout with the finger, the top will appear of a red florid
 colour, as in any other disease, in what manner soever
 it flowed. But whatever be the appearance of the
 blood, this disease, tho' it has a bad name, and is in its
 own nature more dangerous than most others, is easily
 conquered by proper treatment, and indeed with as
 much certainty as any other distemper.

5. Having thoroughly considered all the various *pheno-* Whence a
nomena of a *pleurisy*, I conceive it to be only a fever oc- pleurisy,
 casioned by a peculiar inflammation of the blood, where- and what
 by nature throws off the peccant matter upon the *pleu-* it is.
ra,

Sect. 6. *ra* (*t*), and sometimes upon the lungs, whence a *peripneumony* arises (*u*); which, in my opinion, only differs from a *pleurisy* in degree, and in respect of the greater violence, and larger extent of the same cause.

Intentions
of curing
this disease

6. In order, therefore, to cure this disease, I have the following ends in view (*w*); (1) to check the inflammation

(*t*) A *true pleurisy* is an inflammation of the blood, caused by a stagnation thereof in the minute vessels of the *bronchia*, discovered a few years ago by the celebrated *Ruyschius*, which serve only to the nutrition of the membranes, vesicles, and vessels constituting the lungs. And therefore the lungs themselves are chiefly affected but only in their external surfaces. It is attended with greater difficulty of breathing, than the *spurious*, or *bastard pleurisy*, along with a spitting of blood, and is sometimes terminated by expectoration. It is also joined with a more acute fever, but the pain is neither so sharp, nor the part affected so tender, as in the latter distemper. See *Hoffman. Med. rat. system. tom. quart. p. 427.*

In the *spurious*, or *bastard pleurisy*, the pain in the side is very acute and pungent, and is increased by touching the part affected; the patient cannot easily lie on the pained side, and hath a dry cough, without spitting up a flegmy, or bloody matter; but nevertheless, if the cough be violent, it augments the pain. This distemper is likewise accompanied with a fever, and a hard, deprest, and quick pulse.—It does not require bleeding, unless there be a great fullness of blood, but is generally successfully and readily terminated by a breathing sweat, or freer perspiration, about the *seventh* day, and is nothing dangerous. *Ibid.*

Boerhaave observes that there are two kinds of *pleurisies*, a *dry* and a *moist* one, the latter easily curable, but the former not so; whence it is necessary to distinguish them. The *moist pleurisy* is attended with a symptomatic spitting of a viscid, yellowish matter, tinged with blood, brought up from the inflamed part of the lungs, with a violent motion; but in a *dry pleurisy*, the spittle is thin, and comes from the throat, which is a sign that the inflammatory matter is not expectorable. See *Prax. Med. P. iv. p. 164.*

(*u*) A *peripneumony* is accompanied rather with a tense, dull, and heavy pain, than an acute one, and extends to the back and shoulders: but the difficulty of breathing is greater than in a *pleurisy*, and it is also attended with anxiety, and a difficult expectoration of a varicous-coloured matter. For in this disease the vessels of the lungs, which convey the blood from one ventricle of the heart to the other are affected, being obstructed with a very thick blood, inclining to a state of stagnation. Hence it is more dangerous, and easily destroys those whom it attacks, especially if they be aged persons, and a reasonable cooling of the blood has been omitted. See *Hoffman, the book above quoted, p. 428.*

(*w*) As the stagnation of the blood, which occasions an irregular circulation, is the only proximate cause of this disease, the cure turns wholly upon dissolving the coagulation, and promoting

tion of the blood, and (2) to make a revulsion of the Chap. 3.
inflamed particles, fixed upon the *pleura*, by proper
evacuation.

Depending therefore chiefly on bleeding, as soon as I am called in, I order about ten ounces of blood to be drawn from the arm of the affected side (x), and the following draught to be taken immediately after the operation. The method of cure specified.

promoting the circulation; in order whereto these indications are to be answered. (1) All farther inflammation and stagnation of the blood are to be prevented; (2) the *lentor* of the blood is to be diluted and dissolved; (3) the part affected, become tense by the spasm, pain, and copious afflux of blood thereto, is to be softened and relaxed, so that the blood stagnating therein, may be driven out by the arterious blood brought to it, and be again put in motion; and lastly (4) the expectoration of the viscid, bloody and purulent matter lodged in the *bronchia*, is to be promoted, and the generation of an abscess, and *empyema* prevented.

Bleeding is to be used, in point of quantity and frequency, in proportion to the strength, vehemence of the disease, &c. from a large orifice, in order to prevent the increase of the inflammation; and the sooner it is performed, the more beneficial it proves. Diluents and discutients admirably assist in attenuating and diluting the viscosity of the blood, for which purpose water-gruel, or barley-water, sweetened with honey, and whey are excellent liquors, drank warm. The pain and tension in the part affected may be much abated, by applying, and keeping fixt thereto, a bladder filled with a warm decoction of emollient ingredients in milk; as the flowers of elder, melilot and camomile, white lilly and marshmallow roots, poppy heads, linseed and fenugreek seed, &c. [A common emollient fomentation, diligently and carefully applied, is preferable to the application of the bladder in this case, and will much better answer the purpose.] Expectoration may be greatly promoted by lubricating pectoral decoctions, or ptisans, along with proper lochoch, or mixtures.

The belly should be kept open by emollient glysters, the extremes of heat and cold are equally to be avoided, and nothing must be drank cold; all medicines also that work powerfully by urine, sweat, or stool, must be carefully refrained. Opiates are bad in aged persons, and where the humours are thick, and the inflammation considerable. Expectorating medicines are not to be exhibited in the beginning, nor till the matter is concocted, tough, moveable, and fit for excretion; otherwise a greater flow of humours to the lungs will be occasioned. See *Hoffman. med. rat. syst. tom. quart. p. 4. de feb. pneumon. sparsim.*

(x) It matters not from which arm blood be taken, for the doctrine of topical revulsion and derivation is as much exploded now by the best physicians, as the *Cartesian* system; being contrary to the laws of the circulation. See the appendix to *Dr Nichols's compend. anatom. de sanguine alkalescente, accrescente, et missione sanguinis.*

Take

Sect. 6.
 A cooling draught.

Take of the distilled water of red poppies, four ounces; the salt prunella, one dram; syrup of violets one ounce; mix them together for a draught (y).

An emulsion.

At the same time I prescribe the following emulsion.

Take seven blanched sweet almonds, the seeds of melons and pumkins, of each half an ounce; the seeds of white poppies, two drams; beat them together in a marble mortar; then pour on by degrees a pint and half of barley water; mix them well, and, when strained, add two drams of rose water, and half an ounce of white sugar.—Let four ounces be taken every fourth hour.

I also order pectorals to be taken frequently, e. g.

A pectoral apozem.

Take of the common pectoral decoction, a quart; syrup of violets and maidenhair, of each an ounce and half; mix them together for an apozem, of which let half a pint be taken three times a day.

A pectoral linctus.

Take of fresh oil of sweet almonds, two ounces; of syrup of maidenhair and violets, each an ounce; white sugar, half a dram; mix them together, and make a linctus, according to rules of art.—A small quantity of this is to be swallowed leisurely often in a day.

Fresh oil of sweet almonds alone, or linseed-oil, is also frequently used with great advantage.

(y) The salt prunella is ordered here in too large a dose, the ordinary effect of which is to make the patient sick and puke. This preparation of nitre (says Lewis) was formerly in great esteem, and is sometimes still ordered in prescription, which occasions its keeping a place here. The process is built upon an erroneous foundation, which supposed that the nitre was purified by the deflagration it undergoes upon injecting a little sulphur upon it. But from proper experiment it appears, that the sulphur is so far from depurating the nitre from any accidental impurities, or tending to its improvement as a medicine, that it really alters some part of it into a salt, which has quite different properties; and therefore, as far as so little a portion of sulphur can go, changes it for the worse*. Besides, as this salt is easily and for certain too commonly adulterated with alum, the apothecary cannot be sure of its being good, unless he makes it himself, and therefore ought to be at this trouble in case it is ordered. It is rejected by the college in their last dispensatory, and purified nitre is now generally used instead of it, which is certainly as good, if not a better medicine. So valuable a remedy, however, ought to be given in the quantity of a scruple at a time, every three or four hours, to answer the expectation of the physician.

* See his Edinburgh Dispensatory, p. 279.

7. As to diet, I forbid all flesh meats, and the smallest Chap. 3.
 flesh broths, and advise the patient to sup barley-broth, 
 water-gruel, and panada; and to drink, a ptisan, made The regi-
 of pearl barley, sorrel, and liquorice roots, &c. boiled in men.
 water, and sometimes small-beer. And I also prescribe
 the following liniment.}

Take of oil of sweet almonds, two ounces; pomatum and An emol-
 ointment of marshmallows, of each an ounce: mix lient lini-
 them together for a liniment, with which let the side ment.
 affected be anointed morning and night, applying a
 cabbage leaf thereto.

I direct the abovementioned remedies to be continued
 the distemper throughout.

8. On the same day (the first of my attendance) if the Bleeding
 pain be very acute, I order as much blood to be again how to be
 taken away; or else the next day, and so the third performed.
 day, and if the pain and other symptoms rage severely,
 I bleed in this manner four days running. But if (1)
 the disease be less violent and dangerous, and therefore
 allows me to proceed in a gentler manner; or if (2) the
 patient be too weak to bear repeated bleeding at such
 short intervals, then, after bleeding twice, I interpose a
 day or two between every bleeding afterwards. In this
 case I make the contraindications my rule; considering
 on the one hand the violence of the disease, and com-
 paring it with the weakness of the patient on the other.
 And tho' in the cure of diseases I would always be
 suffered to take away more or less blood, as the case
 requires, yet I have seldom known a confirmed pleurisy
 cured in grown persons, without the loss of about forty
 ounces of blood. In children, however, it is generally
 sufficient to bleed once or twice. Nor does a *looseness*,
 which sometimes happens, obstruct the abovemention-
 ed repeated bleeding; for in reality it may soon be
 stopped hereby, without exhibiting *astringents*.

9. I either refrain from glysters entirely, or order
 only simple ones of *milk and sugar*, and take care to
 have them injected at as great a distance between the
 bleedings as possible (z. 10. To

(z) Our author seems to be too apprehensive of some ill ef-
 fects from glysters by his cautious use of them, and does not
 order purging (see par. 11.) till the close of the distemper;
 whereas glysters are doubtless safe, but the common and suc-
 cessful

Sect. 6.

The patient to sit up some hours every day.

A purge when to be given.

Why expectoration is not treated of.

Advantages of bleeding.

10. To prevent the patient's being over-heated during the continuance of the distemper, I allow him to sit up a few hours every day, as his strength will permit; which indeed is of such moment here, that if he be kept always in bed, neither the plentiful evacuation of blood, nor the most cooling remedies will sometimes at all avail in conquering the symptoms above specified.

11. Immediately after the last bleeding, and sometimes before, all the symptoms abate, and the patient soon recovers his former strength, when it is proper to give some gentle purgative: and he should be debarred for some days longer from gross foods, and all kinds of spirituous liquors.

12. But if it be said here that our method is defective, because we are so far from treating amply of the means of promoting expectoration, in the different stages of the disease, that we scarce mention them; we reply, that this has not been omitted thro' negligence, but purposefully, after mature consideration, as having always judged those to be in great danger who trusted the cure of this disease to expectoration. For, not to mention the tediousness of this method, by which nature endeavours to expel the morbid matter, it is likewise unsafe; for it often happens that part of the matter being concocted, and perhaps expectorated, the remainder continues yet crude, and this successively; the most powerfully expectorating medicines having been ineffectually used. For sometimes expectoration goes on very well, and at others is quite stopt, the patient, in the mean time, being on all sides endangered, and as I have not the least power over expectoration, it is equally uncertain whether the distemper will end in his recovery or death. Whereas, on the contrary, by bleeding, the morbid matter is brought under my management, and the orifice of the opened vein may be made to supply the function of the wind-pipe (a). Moreover, I positively affirm

that the successful practice is to give lenitives, and generally a gentle purge every other day from the beginning of the disease.

(a) To endeavour to promote *expectoration* in a simple *pleurisy* is absurd. Nothing does so much service here as timely, copious and frequent bleeding, along with diluting and emollient liquors, drank freely, for these dilute and feed the blood, whilst they relax the too rigid fibres, and at length resolve the coagulated humours; especially if *nitre* and *camphire* be taken in a proper manner, with which *opium* may be conveniently mixt

that this disease, which is justly reckoned amongst the most fatal when treated according to the method we have condemned, may be cured with as much certainty and safety as any other disease, by the method just laid down, not to mention the short time wherein the cure is compleated: nor have I ever known a person in the least injured by the loss of so large a quantity of blood; which the unskilful seem to apprehend (b).

13. I

mixt between whites, to ease the vehemence of the pain. For *opium* is also a powerful relaxer, and therefore is very serviceable in all diseases proceeding from excessive contraction, as the *methodists* term it. Hence it checks the too quick circulation of the blood, and admirably promotes the concoction of the morbid matter: and hence a copious sediment in the urine is frequently observed after the use thereof.

In reality a true pleurisy no more requires *pectorals*, *linētus's*, and the like, than an inflammation of the leg, or the gout itself: much more service is done here by proper fomentations, which frequently relieve the pain, and conquer the disease.—Moreover in a sharp and obstinate pain, the application of cupping glasses, and scarifications proves highly beneficial, when every thing besides avails little. And in case the distemper be very violent, blisters are sometimes applied. See *Huxham de aere & morb. epid.* p. 64, 65.

This disease indeed (says Dr *Barker*) is sometimes cured without the use of any other remedy but bleeding and diluting liquors, but it is not bleeding which performs the cure; for all that can possibly be done by this evacuation, is to mitigate the symptoms, and nature afterwards carries off the disease, by a kindly resolution, or concoction of the morbid matter*.—Certain it is, however, that the cure is much better attempted by resolution than by expectoration.—The rule for bleeding in any case (as the same writer observes) must be learnt from a careful examination of the constitution of the year, and from the patient's strength, but chiefly from the violence of the disease; for it ought always to be remembered, that it is only a palliative remedy, intended to moderate the symptoms, till other remedies can be used, but that it is nature after all which must effect the cure †.

(b) The general method of cure in those fevers, which are attended with disorders in the organs of respiration, being judiciously laid down in a summary way by Dr *Hoadley*, I take this occasion of transcribing the whole of what relates thereto; as well to supply any deficiency of our author, as to spread those directions farther, and by this means render them more beneficial.

Whenever a physician, says the doctor, finds a patient labouring under the heat, thirst and restlessness of a fever, and at the same time violently afflicted with a pain in his side, cough, difficulty in breathing, or any other of the symptoms,

* Essay on the agreement between antient and modern physicians, p. 190.

† Ibid. p. 53.

Sect. 6.

13. I have indeed frequently endeavoured to discover some other method that might prove equally effectual without

which shew the organs of respiration are disordered; he is diligently to enquire into the rise of the whole disease, and carefully to examine into every complaint, in order to form a judgment, whether the disorders in his breathing are owing to the fever, or the fever to them.

If it appear evidently that they arise from the fever; his next enquiry ought to be into the nature and genius of the fever itself, independent of the complaints in breathing; because tho' the violence of the pain, and the great difficulty of breathing, must be regarded and alleviated, yet the cure of the patient must in the end depend upon the cure of the fever.

And as it is known by experience, that there is a great variety in fevers; that some will not abate, but rather grow worse, on bleeding, whilst others will hardly yield to any method without frequent repetitions of it; that some will be greatly increased by a warm regimen, which readily yield to a cooling one, whilst others are so low as to require the constant use of the warmest cordials; that some will not bear even the gentlest opening physick, without a very dangerous looseness following upon it, whilst others visibly increase, unless the body be kept open by the daily use of glysters, or small doses of *rhubarb*; that some will give way at once, as it were to a charm, on the application of blisters, whilst others receive no benefit at all, but are rather increased by the pain and fatigue they occasion, &c. As, I say, there is so great a variety in the nature of fevers, and the methods of treatment they will submit to; and as these acute diseases of the organs of respiration often accompany and depend upon each of these kinds of fevers; it is impossible for any one general rule to be laid down for the management of them: but the whole must depend upon the judgment of the physician, formed at the time from the circumstance of every particular patient.

I shall, therefore, in the next place, endeavour to point out the ways we have of judging, in particular cases, which of the different methods of treating these disorders is to be made use of, preferably to the others; whether it be more adviseable to proceed by repeated bleedings, by the cool method, by the hot one, or by the application of blisters.

This I am sensible is a very difficult task; and perhaps may not possibly be done with sufficient accuracy, for us ever to frame any certain rule, by which we may judge at once of the nature of the fever, and the particular method we are to pursue: but I make no doubt that there may be some signs pointed out, by which we may at least be directed when to desist from too obstinate a pursuit of any of them.

For tho' it be confessed to be difficult for us to determine of what sort the fever is, which attends a pleurisy (for example) so soon as the violence of the pain, and the danger of the disease require us to do something; yet if we know that different fevers make it necessary for us to pursue different methods, we may be as certain that they will not all be equally relieved by the first or second steps in the same method; *viz.* they will not

without bleeding so copiously, viz. either (1) by resolving the humour, or (2) by expelling it by expectoration; Chap. 3.

not all be equally relieved by bleeding: and consequently if bleeding once, or a second time, affords little or no relief; but on the contrary, if the pulse falls, and the strength and spirits flag, whilst the pain in the side, and difficulty in breathing continue as violent as ever, or nearly so; we may be very certain the fever will not admit of this method, and an obstinate repetition of bleeding must be dangerous. This therefore will be a true and proper mark for us to know when to desist.

I have instanced particularly in bleeding, because it is universally allowed to be the very first step that ought to be taken towards the cure; a step which the violence of the pain, and difficulty of breathing absolutely require, in order to prevent their increasing the fever to a more dangerous degree: and because the operation itself affords us an opportunity of examining into the alterations which the blood has undergone in this fever; and this, together with the feel of the pulse, and the strength and spirits of the patient before and after bleeding, will greatly assist us in determining, whether we are to proceed in the hot, or the cold method.

If the patient be of a full habit of body, with strong vessels, and the pulse high, and the spirits good, both before and after bleeding, and the blood of a florid, scarlet colour, with little or no serum, or very fizy; bleeding is evidently to be repeated even to the fourth time, if the symptoms require it, and the cool emollient method to be pursued: and towards the decline of the inflammation, if the continuance of the pain demands it, blisters may be applied, and generally answer their design.

But if the patient is of a weak and low habit of body; if his strength and spirits flag, and his pulse sinks on bleeding; and, together with these symptoms, the pain and difficulty of breathing continue; we have very good reason to believe the loss of more blood may be attended with very dangerous consequences, such as attacks upon the brain, syncopes, &c. and we ought to desist, as was said before.

In these cases the blood is generally of one, or other of these very different kinds: it is either very fizy, or has all its parts broken, dissolved, and blended together, and what little *crassamentum* there is, breaks upon the slightest touch, and mixes with the rest.

In the first case, a free use of the *volatile salt*, or *spirit of hartshorn*, the *volatile salt of amber*, or such like, repeated every six, four, or three hours, as occasion requires, together with warm medicines, are of the greatest service, and sometimes give almost immediate relief. Blisters too may in this case be applied at the very first sinking of the pulse and spirits, as they answer the same intention with the other volatile salts. It seems to be from cases of this kind, that *goats blood*, and *horje-dung*, merely as containing volatile salts, or spirits, have gained their reputation for the cure of pleurisies.

In the other case, neither blisters nor the volatile salts, seem to afford so much relief to the patient, as large quantities of acids

Sect. 6. tion; but have not hitherto found one of equal efficacy with that above delivered; whereby (notwithstanding the

acids; such as distilled vinegar, together with the warm cordial medicines, as *mithridate*, *confect.* RALEIGH, &c. At the same time, a whey made with the *aqua theriacalis* is a very suitable and beneficial drink for constant use.

These I only offer as hints that may be serviceable in guiding us to the right method of cure; by which I mean the method most agreeable to the nature of the fever which accompanies the disorders in breathing, in these acute diseases: but not with a design that either of these methods should be obstinately followed, when either the pain or the fever does not yield to us. On the contrary they should be constantly varied, as the symptoms may require.

But that I may not be thought to have advanced what I have said of the different method of treating these fevers, merely on my own authority, and as the result only of my own observation, I shall transcribe a few sentences from the works of Dr Sydenham, where he takes occasion to deliver his opinion in general of the manner of judging at what times his own method of curing pleurifies, by quick repetitions of bleeding in large quantities, should not be pursued.

Here the quotation is inserted, as taken from *Sect. V. Chap. V. Par. 9.* of our excellent author's works, to which therefore the reader is referred.

The doctor proceeds: there is a remarkable passage to this purpose in Dr Tabor's *Exercitationes medicæ*, which I shall transcribe likewise, and then conclude.

The passage translated is as follows:

“ These particulars are farther verified by a fever of a certain
 “ kind, which has proved very fatal of late years to the com-
 “ mon people of this nation, and ordinarily prevailed some-
 “ times at one, and sometimes at another season of the year.
 “ It was of the pleuritic kind, and began with a considerable
 “ chillness and shaking, which the longer they continued, the
 “ worse event of the illness they foreshewed: but these remit-
 “ ting, there immediately arose a sharp, and frequently a
 “ spasmodic, pain in the right side, a remarkable loss of
 “ strength, and a difficulty in breathing, with a great oppres-
 “ sion in the *præcordia*, and a heaviness. In general the heat
 “ was not intense, the pulse quick or hard, the cough frequent,
 “ the thirst considerable, or the belly loose or bound. The
 “ urine let fall no sediment, and was of a straw colour. Ob-
 “ stinate watchings continued the distemper throughout, but
 “ the patient was not delirious. At first the cough was dry,
 “ but in about twenty four hours, a thin matter, tinged with
 “ blood, was frequently expectorated: but afterwards the
 “ cough became more frequent and lasting, the matter being
 “ more copious and tougher, till the disease was terminated
 “ either by a very plentiful expectoration, or the patient was
 “ suffocated by a very viscous phlegm, remaining in the lungs:
 “ which generally happened before the *ninth* day, seldom la-
 “ ter, and often sooner; especially if bleeding had been unsea-
 “ sonably repeated. Very few, except robust and plethoric
 “ young

the fatal prognostic Hippocrates hath left us concerning a dry pleurisy) I recover the patient without waiting for expectoration. Chap. 3.

14. But

“ young persons, were observed to bear bleeding without inconvenience ; but in such, bleeding twice, and sometimes thrice, in the first days of the disease, did service : but in others bleeding was either wholly to be refrained, or to be performed only within a few hours of the attack ; and tho’ in a small quantity, it proved to be highly dangerous, unless an emetic was soon given, and followed by the continued use of expectorating medicines. For the disease was of such a nature, that, except in plethoric persons, the cure was compleated by a plentiful expectoration of a viscous phlegm, which proceeded more easily and successfully by not taking away blood, than losing it. For bleeding in persons who were not plethoric generally stopt expectoration, and occasioned a very difficult respiration, with a rattling in the throat : and observation shewed that the oftener it was repeated, the more all the symptoms were increased, and the sooner death was occasioned.”

The author goes on.

There is no doubt, but those physicians, who have a large share of business, and numbers in fevers continually under their care, acquire a sagacity, which is not to be taught to others ; by which they can more readily and easily judge of the nature of the fever, and consequently of the proper method of cure, than they who have not the same opportunity. But this is no reason why others should not be upon their guard, and endeavour to form to themselves rules, and hints for observation, as well as to acquire that sagacity in time, as to avoid the most dangerous consequences of it at present.

And tho’ these hints, that I have offered, may appear too general, they are not however to be totally neglected, or despised, because they are equally serviceable in the treatment and observation of all fevers in general, as well as those in particular which are attended with disorders in the organs of respiration ; and because they are every where left to the judgment of the physician to follow, as the different combinations of the symptoms appear most to require.

Indeed the whole design of mentioning them at all was only to prevent too prevailing a custom, of treating the same train of obvious symptoms always in the same manner, without considering to how many different causes they may be owing : a custom, which owes its rise to general names having been given, not only to those obvious symptoms, as if they attended only on one disease, but to the favourite medicines too of some physician in repute for that disease, whence those, who are learned only in receipts, are too apt to prescribe to the name of the disease, and not to the disease itself : and the very opinion which a beginner in the practice of physic may have formed of the skill of the physician he borrows his receipt from, may lead him into a method of cure, which that physician himself would not have pursued at that particular time. See the learned author’s lectures on the organs of respiration, from p. 105. to the conclusion.

Sect. 6. 14. But as the cure of this disease chiefly consists in repeated bleeding, which, in country towns, is frequently performed by unskilful operators, who often prick the tendon, whereby the limb, and consequently life, is endangered, I judged it not amiss to subjoin here the method of curing this accident.

The tendon sometimes prick'd by bleeding. How this accident is to be remedied. 15. In a puncture of the tendon the patient does not immediately feel pain, but twelve hours after the operation it begins, and is not so much perceived in the orifice lately made as in the parts reaching up to the arm-pit, where at length the pain fixes, and is chiefly felt upon extending the arm. The part affected does not swell much, the tumor not exceeding a hazel-nut; but an aqueous humour, or *ichor*, continually flows from the orifice, which in reality is esteemed the principal sign of a punctured tendon. I have known it cured by the following application.

An emollient cataplasm.

Take of the roots of white lillies, four ounces; boil them till they become soft in a quart of milk; then take oatmeal and linseed flower, of each three ounces; boil them to the consistence of a cataplasm in enough of the milk, strained from the white lilly roots, and having bruised the roots, mix them therewith for a cataplasm, to be applied hot every morning and night to the part affected (c).

The loss of forty ounces of blood, which is the quantity mentioned by this great man, is so far from being enough in many cases, that it is astonishing he should have answered his ends by it; for violent pleurisies often require the loss of eighty ounces, and sometimes considerably more; and constant practice abundantly shews the safety, necessity, and utility of such plentiful bleeding.

(c) As a puncture of the tendon will not always yield to this treatment, and is attended with other symptoms besides those mentioned by our author, we shall subjoin a farther account of them, with the best methods of remedying this accident, as they are delivered by the accurate *Heister*.

Wounds of the nerves, or tendons, are chiefly manifested by the following signs. (1) The patient feels so acute a pain, the moment the puncture is made, that he can scarce restrain from crying out aloud, especially if it continues; (2) this is soon succeeded by a tumor, inflammation, spasms, and a stiffness also of the limb, and these (3) unless seasonably remedied, by exceeding dangerous convulsions, and at length a gangrene, and death in a very short time.

The best method of curing this accident seems to be that which *Ambrose Parey* relates he formerly used with success in
the

the cure of *Charles IX* king of *France*. For after the king had signified the pain he felt, the moment the lancet entered his arm, by crying out aloud, *Parey* suspected that some nerve was wounded, and with reason, the arm soon beginning to swell, with most acute pain, and becoming quite stiff. Immediately, therefore, his majesty's physicians with *Parey* directed a method of cure. In the first place *oil of turpentine*, mixt with *rectified spirit of wine*, being made warm, was dropt into the wound, then the whole arm was covered with a plaister of *emplastrum diachalciteos*, or the *vitriol plaister*, let down with *vinegar* and *oil of roses*, over which the *expulsive* bandage was applied. Lastly, to compleat the cure, the following cataplasm was applied to the arm, till the pain went off entirely.

Take of the flower of barley and the bitter vetch, each two ounces; the flowers of camomile and melilot, each two handfuls; fresh butter, an ounce and half; boil them in soap suds to the consistence of a cataplasm.

Tho' the arm continued stiff for near three months afterwards, yet by degrees it recovered its former strength and motion.

The following also seems a proper method of cure. Instead of a mixture of *oil of turpentine* and *spirit of wine*, let *balsam of Peru*, or *Hungary water*, made warm, be dropt into the wound often in a day, and also applied to it, till the pain abates. *Simple diachylon*, or *simple red lead plaister*, may be substituted for the *vitriol plaister*. But the greatest care must always be taken, here, not to leave the wound uncovered, whilst these dressings are preparing. Some sort of plaister, therefore, whatever it be, should be immediately applied, and the whole arm wrapt round with compresses of linnen moistened in *oxycrate*. For by this means the inflammation is not only prevented, or mitigated, but the wound may be defended from the external air, or other pernicious matters. But in persons who are full of blood and juices, it is proper, to prevent the inflammation and other threatening accidents, to take away a large quantity of blood immediately from any other limb. *Scultetus*, in his 87th *observation*, highly commends a certain unguent in punctures of the nerves, which he there describes, and in the same place tells us that he has divided such punctured nerves cross wise with success. See *Instit. chirurg. Laur. Heist. p. 11. Sect. I. Chap. XI. p. 423.*

The following remarks on this accident were communicated to me by Mr *Jones* of *Coventry*, an ingenious surgeon, who, in the course of this work, has obliged me and the publick with several excellent practical observations.

“ *Sydenham's* account of the symptoms is a very good one, and may be depended on. But though, as he hints, the swelling near the orifice is not so big (or eminent) as a hazel-nut, unless an abscess forms there, yet there is generally a swelling, or enlargement in the bend of the arm, and below it too in the course of the bending muscles that arise from the internal condyle of the *os humeri*, and near it, and generally some pain there also, though it seldom goes far down the arm. But the chief pain and swelling commonly extend from the orifice upwards, much in the

“ course

Sect. 6.

“ course that this accurate writer describes. A peculiarity
 “ of this case is, that (no withstanding the pain and swelling,
 “ together with a *certain* inflammation) a redness of the skin
 “ is hardly ever very manifest, especially in fat persons, till
 “ an abscess is considerably advanced; which, however, sel-
 “ dom happens, and it is uncertain where it will fall. I have
 “ opened some in the arm pit and near it, as well as near the
 “ orifice and above it. As to what is quoted from the judi-
 “ cious and indefatigable *Heister*, so far as it relates to the
 “ puncture of the tendon from bleeding, I am obliged to dis-
 “ sent from him, and to give a different account of the matter.
 “ —It has happened (though I never was so unfortunate as to
 “ occasion one) that I have met with several cases, where the
 “ *biceps* tendon and its *fascia* have been pricked, without the
 “ instant intolerable pain, or the dismal train of consequences
 “ which he asserts attends it. And as to the case of the king
 “ of *France*, I think if he had been a peasant he would have
 “ had just reason to complain of the management of it. The
 “ method of treating this accident consists in curing the inflam-
 “ mation, which generally is an easy matter. When it is first
 “ perceived, the orifice should be dressed *superficially* with a
 “ pledget of digestive, and the application renewed twice in
 “ twenty four hours, and the limb, so far as it is affected,
 “ should be covered with soft double linnen rags, moistened
 “ with equal parts of olive oil and vinegar; or if any one likes
 “ it better, a soft pultice may be applied in its stead, made of
 “ oatmeal, oil and vinegar. Neither the mixture nor the pul-
 “ tice need be much warmed; and if the accident could be
 “ discovered directly, or the case for which the patient was
 “ blooded did not forbid it, these applications would be more
 “ properly used cold.

“ After these dressings have been used two or three days,
 “ the parts should be well fomented, (for which purpose vi-
 “ negar and water seem to be as proper as any thing) and the
 “ other dressings applied, as before directed, with this differ-
 “ ence however, that now they should be laid on as warm as
 “ the patient can bear them without the *least* pain. This me-
 “ thod may be continued till the patient is just cured, which
 “ by proper management is generally accomplished in about
 “ ten days, and often in less. If the forming of an abscess be
 “ discovered, regard must be had to that, and the cure will
 “ take up more time. Sometimes slight disorders attend the
 “ skin from acids lying constantly on it; in which case the vi-
 “ negar must be occasionally omitted, &c. I know of nothing
 “ further necessary to be mentioned under the head of external
 “ management, unless that the bandage which is used to keep
 “ the dressings on, ought by no means to be in the least degree
 “ painfully tight; — that the arm be easily and intirely sup-
 “ ported; — and lastly, that it be constantly kept bended, and
 “ never suffered to be extended till the patient is well.

“ As to the internal treatment, the patient should be blooded
 “ and take cooling purges, as occasion requires. *Nitre* given
 “ often is proper likewise, and a low diet quite necessary.”

C H A P. IV.

Of the Bastard Peripneumony.

I. **A** Fever, attended with several peripneumonic symptoms, arises every year towards the beginning, but more frequently at the close of winter. It chiefly attacks such as are of a gross habit of body, and middle-aged persons, but oftener those who are more advanced in years, and too much addicted to spirituous liquors, especially to brandy. For as the blood of such persons hath been loaden with phlegmatic humours collected in the winter, and is put into fresh motion by the approaching spring, a cough is hereby immediately occasioned, whence these humours hurry to the lungs; and then if the patient happens to live irregularly, and drinks more freely of spirituous liquors, the matter occasioning the cough grows thick, and stops the passages of the lungs, and the fever wastes the mass of blood (*d*).

The rise of the *bastard peripneumony*.

2. At the beginning of the fever, (1) the patient grows hot and cold alternately, (2) is giddy; and (3) complains of an acute pain in the head when the cough is most troublesome; (4) he vomits up all liquids, sometimes with, and at other times without coughing; (5) the urine is turbid, and intensely red; (6) the blood taken away resembles pleuritic blood; (7) he breathes quick, and with difficulty: if he be advised to cough, his head aches, as if it would burst, for so the

Its symptoms enumerated.

(*d*) Not many have wrote of the *bastard Peripneumony*, and it was known distinctly by few except our author; others having treated of it under the name of a *catarrh*.

The body is oppressed with phlegm during the cold, or winter season, but upon the approach of heat in the spring and summer season, there succeeds a sudden solution of the humours, which are mixed in the veins, and carried to the right ventricle of the heart, and to the lungs, whence the lungs are surcharged with cold and pituitous, but not inflammatory blood; and hence a peripneumony always arises after severe cold weather in the spring.

Heat dissolves the phlegm, which being afterwards mixed with the blood, and carried to the lungs, passes the ramifications of the pulmonic artery with great difficulty; and hence proceeds the cause of a *peripneumony* from humours collected in the body during the winter, and afterwards mixt with the blood. See *Boerhaave, Prax. Med. Vol. IV. de Perip. notba.*

patient

Sect. 6. patient generally expresses himself; (8) a pain of the whole breast accompanies the disease, and (9) a wheezing is heard by the attendants whenever the patient coughs, the lungs not being sufficiently dilated, so that the vital passages seem to be closed by the swelling; whence the circulation is so intercepted, that there are no signs of a fever, especially in gross habits; tho' this may likewise happen from the abundance of the phlegmatic matter, whereby the blood is so furcharged, that it cannot rise to a perfect ebullition.

Intentions
of cure to
be answer-
ed.

3. In order to the cure of this fever, I judge it proper, (1) to take away that blood which inflames the lungs, and endangers suffocation; (2) to open and cool the lungs by pectoral medicines; and (3) to abate the heat of the whole body by a cooling regimen. But as, on the one hand, the collection of the phlegmatic matter contained in the veins, and daily affording fresh supplies for the inflammation of the lungs, should seem to indicate frequently repeated bleeding; yet, on the other hand, I learnt, from the most accurate observation, that this practice proved very prejudicial in feverish persons of a gross habit, especially if they were past the prime of life; so that bleeding with frequency was equally contraindicated. I therefore had recourse to frequent purging in its stead, which is properly enough substituted, where the patient hath an aversion to copious and frequent bleeding (e).

The me-
thod of
cure parti-
cularized.

4. Accordingly I proceeded in the following manner; I directed bleeding in the arm in bed, and forbid the patient to rise till two or three hours afterwards; because bleeding, which in some measure weakens the whole body, may by this means be more easily borne; for the patient can better bear to have ten ounces taken away in bed, than six or seven when he sits up. The following day I give this purging draught in the morning.

A purging
draught.

Take of fresh pulp of cassia, an ounce; liquorice root two drams; four figs; sena, two drams and half; troches of agaric, a dram; boil them in enough water to leave four ounces of liquor when strained, in which dissolve an ounce of manna, and half an ounce of so-

(e) Boerhaave advises only a single bleeding: but highly extols laxative glysters, bathing, and blistering. See Boerhaave's, *Prax. Med. Vol. IV. de Perip. nestha.*

lutive syrup of roses: mix the whole for a purging draught (f). Chap. 4.

5. The next day I usually repeat the bleeding, and interposing a day, I exhibit the purging draught again, which is to be repeated every other day till the patient recovers. On the intermediate days of purging I advise the use of a *pectoral decoction*, *oil of sweet almonds*, and the like remedies. In the mean time I forbid flesh, and broth made thereof, but especially all spirituous liquors; and instead of these I allow him a ptisan made of *barley and liquorice boiled in water* for his common drink, or small-beer, if he desires it. The regimen.

6. This is the method of curing the *bastard peripneumony*, caused by an abundance of phlegmatic humours collected in the blood, and, by reason of the coldness and moisture of the winter, thrown upon the lungs; wherein both repeated bleeding and purging are indicated, otherwise than in a *true peripneumony*; which I esteem to be manifestly of the same kind with the *pleurisy*, with this difference only, that a peripneumony does more universally affect the lungs. And indeed both distempers are cured by the same method, namely, by bleeding chiefly, and cooling medicines.

7. Tho' the *bastard peripneumony* in some measure resembles the *dry asthma*, both in the difficulty of breathing, and some other symptoms, yet it is sufficiently distinguished from it, as being attended with manifest signs of a fever and inflammation, which never appear in a *dry asthma*; but they are much less considerable and apparent in the *bastard peripneumony* than in the *true peripneumony*. Wherein the disorder differs from a *dry asthma*.

8. It must be carefully remarked; that when this disease attacks such as have been great drinkers of bran-

(f) This purging draught is a very odd and inelegant prescription, and withal an exceeding nauseous medicine. Much neater, as well as more palatable forms are directed every day by most physicians; and no wonder, as the art of prescribing is considerably improved since our author's time in point of simplicity, elegance and agreeableness, and perhaps efficacy too.——Let me add therefore, here once for all, that tho' I don't chuse to swell the notes with remarks and animadversions on every one of his prescriptions (which the skilful physician knows how to correct and adapt to his intention, and likewise to vary as the circumstances require) yet there are several scattered up and down in his works, against which the same objections might with equal reason be made.

Sect. 6. dy and other like spirituous liquors, it is by no means safe to quit them of a sudden; but they must be left off gradually; for so sudden a change makes way for a dropsy: and this should be made a standing rule in all other diseases arising from the same cause. Since I have mentioned brandy, I will observe, by the way, that it were indeed to be wished, either that it was wholly forbid, or at least used only to recruit the spirits, and not to occasion a stupefaction; or that it was totally prohibited to use it internally, and only allowed to be applied externally by surgeons in fomentations, to digest ulcers, or to heal burns. For, in the last case, it excels all other applications hitherto known, as it preserves the *cutis* from putrefaction, and on this account speedily finishes the cure, without waiting for *digestion*, which runs thro' its stages very slowly. For this purpose let a piece of linnen, dipt in *brandy* or *spirit of wine*, be immediately applied to the parts scalded with hot water, burnt with gun-powder, or the like, and renew the application between whiles, till the pain ceases, and afterwards apply it only twice a day (g).

Spirits of
wine excel-
lent in
burns.

C H A P. V.

Of the Rheumatism.

The rheu-
matism
how caus-
ed, and
when it
arises.
Its sym-
ptoms.

I. THIS disease happens at any time, but especially in *Autumn*, and chiefly affects such as are in the prime of life. It is generally occasioned by exposing the body to the cold air, immediately after having heated it by violent exercise, or some other way. It begins (1) with a chiliness and shivering, which are soon

(g) This is only to be understood of slight burns, in which case *oil of turpentine* is a good remedy, as is also a decoction of *oxycrate with salt*, applied warm to the part, and often renewed. The approaching the part to the fire, and holding it as long as the patient can bear it, is very useful here, as it not only resolves the stagnant blood, but likewise prevents the rise of blisters, and other bad symptoms. See *Heist. Institut. Chirurg. P. 1. lib. iv. Chap. XV. p. 331.*

The first common, easy, and successful application of the *London* surgeons to burns, is oil of olives, or linseed oil, warm. And I can affirm that spirit, or brandy, is also an admirable remedy, and falls little short of deserving the great character that *Sydenham* has given it in these cases.

succeeded

succeeded (2) by heat, restlessness, thirst, and the other Chap. 5.
 concomitants of a fever; (3) in a day or two, and some-
 times sooner, there arises an acute pain in some or other
 of the limbs, especially in the wrists, shoulders, and
 knees; which, shifting between whiles, affects these
 parts alternately, leaving a redness and swelling in the
 part last affected. (4) In the beginning of the illness
 the fever and the abovementioned symptoms do some-
 times come together; but the fever goes off gradually,
 whilst the pain continues, and sometimes increases, oc-
 casioned by the derivation of the febrile matter to the
 limbs; which the frequent return of the fever, from the
 repulsion of the morbid matter by external remedies,
 sufficiently shews.

2. This disease, when unattended with a fever, is
 frequently taken for the *gout*; tho' it differs essentially
 therefrom, as will easily appear to those that are tho-
 roughly acquainted with both diseases; and hence it is
 perhaps that physical authors have not mentioned it,
 unless indeed we esteem it a new disease (*b*). But how-
 ever this be, it is at present very frequent, and tho'
 when the fever is gone off, it seldom proves fatal, yet
 the violence of the pain, and its long continuance, ren-
 der it no contemptible disease. For, in case of wrong
 management, it frequently remains not only several
 months, but some years, nay even during life; tho' in
 this case it is not equally painful, but has its periodical

Often ta-
 ken for the
 gout.

A stub-
 born, but
 not a dan-
 gerous dis-
 ease.

(*b*) In the *rheumatism* the muscles, together with their com-
 mon membrane, and the tendons where they are inserted into
 the bones, are affected with a violent pain and spasms in the
 limbs and other parts of the body; but in the *gout* the tendinous
 nervous ligaments, whereby the bones are joined together, in-
 asmuch as they unite with the *periosteum*, are more vehemently
 affected. But as in a beginning *gout* the pain is seated more in
 the surface of the ligaments; so in an obstinate one, the viti-
 ated humour, which occasions the pain, is more deeply seated
 in the joints. There is also this difference between the *gout*
 and *rheumatism*; the *gout* returns with greater frequency,
 gives more pain, lasts longer, and is harder to be cured; but
 the *rheumatism* sometimes seizes a person only once or twice
 during his life, and does not last so long, and is more easily
 cured. The pain likewise often differs in the two diseases, for
 in the *rheumatism* it is more tensive, heavy, joined with cold,
 without any remarkable tumour and redness; but in the *gout* it
 is burning, pungent, and as it were threatens the bursting of the
 part affected, which appears to be much swelled and red.
Physiologia. II. p. 317.

returns,

Sect. 6. returns, like the gout; and the pain may possibly go off spontaneously, after it has been of very long standing. But in the mean time the patient is deprived of the motion of his limbs during life, the joints of the fingers being contracted inwards, with stony concretions as in the gout, which appear more in the internal parts of the fingers than the external, whilst the appetite may be very good, and the general health not amiss.

Another species of this disease

3. There is another species of this disease, tho' it is not generally esteemed of this kind, which may properly be called a *rheumatic lumbago*. It is a violent fixt pain of the loins, reaching sometimes to the *os sacrum*, and resembling a nephritic paroxysm; only the patient does not vomit. For, besides the intolerable pain near the kidneys, the whole conduit of the ureters, even to the bladder, is sometimes affected with the same, tho' in a less degree. And I have formerly been led into an error hereby, as imagining it to arise from some gravel lodged in those parts; whereas, in reality, it proceeds from the peccant and inflamed matter of the rheumatism, which affects only those parts, leaving the rest of the body free. Unless this acute pain be removed in the same manner as the former species, it continues as long, and proves equally violent; so that the patient cannot lie in bed, but is forced either to leave it, or sit upright therein, and be perpetually bending his body backwards and forwards.

Both the kinds caused by inflammation.

4. Since both the kinds of this disease seem to arise from inflammation, as appears from their concomitants just mentioned, and especially by the colour of the blood taken away, which exactly resembles that of persons in a pleurisy, which is universally allowed to be an inflammatory disease; so I judge that the cure ought to be attempted only by bleeding, the heat of the blood being in the mean time abated by cooling and thickening medicines, along with a proper regimen (*i*).

5. Accord-

(*i*) In order to the cure of this distemper, we are to consider whether it be recent, and proceeds from a fulness of blood, or whether it has been of some standing, and proceeds from a collection of foul serum; and according to these circumstances our indications are to be directed.

Bleeding in the beginning is the speediest remedy in the former case: but in the latter it is carefully to be avoided, especially in weakly and cold constitutions, and in persons in years.

5. Accordingly as soon as I am called, I order ten Chap. 5.
 ounces of blood to be immediately taken away from the }
 arm of the side affected, and prescribe a cooling and How to be
 increffating julap, nearly after the following manner. treated.

*Take of the distilled waters of lettuce, purflain, and A cooling
 water-lilly, each four ounces; syrup of lemons, an julap.
 ounce and half; syrup of violets, an ounce; mix
 them together for a julap, of which let the patient
 drink at pleasure; or of the emulsion above set down
 in the cure of the pleurisy.*

To ease the pain, I order a cataplasm, prepared of the
crumb of white bread, and milk tinged with saffron, or a
 cabbage leaf to be applied to the part affected, and fre-
 quently renewed (*k*). With respect to diet, I injoin a The regi-
 total abstinence from flesh, and even the thinnest flesh men.
 broths; substituting in their place, *barley-broth, water-
 gruel, panada,* and the like. I allow only small-beer for
 drink, or, which is more proper, a ptisan prepared of
pearl barley, liquorice, sorrel roots, &c. boiled in a suf-
 ficient quantity of water: and I advise the patient to sit
 up some hours every day, because the heat which pro-
 ceeds from lying always in bed, promotes and increases
 the disease.

6. The next day I repeat the bleeding in the same Bleeding
 quantity, and in a day or two after, as the strength how often
 will allow, I bleed again; then interposing three or four to be used.

Mild diaphoretics, mixed with nitre, given frequently in
 moderate doses, do singular service in both cases: gentle laxa-
 tives are also extremely proper; and warm bathing in the de-
 cline of the disease.—In the cold rheumatism nothing excels
 blistering. Opiates are necessary if the pain be very violent.

(*k*) Embrocating the part affected with a mixture of oil of
 olives and vinegar, made warm, is no contemptible anodyne
 application in this case.—And sometimes an emollient fomen-
 tation may be advantageously applied to the swelled parts.
 However, in general, it may be affirmed that there is little ne-
 cessity for any of these applications to the swellings from an
 acute and inflammatory rheumatism. Such things are often
 used rather for the sake of amusing and contenting the patient,
 than in expectation of their doing any considerable good.

But if there remains a stiffness and numbness of the part, oc-
 casioned by the long continuance of the pain, let it be frequen-
 tly fomented with an emollient and resolvent fomentation, and
 embrocated with warm neat's foot oil; or use warm bathing,
 and exercise it gently, increasing the motion by degrees, as it
 becomes more pliable.

S

days,

Se^ct. 6. days, as the strength, age, constitution of the patient, and other circumstances indicate, I bleed a fourth time, which is generally the last, unless too hot a regimen has preceded, or heating remedies have been exhibited without necessity. But the use of opiates requires more copious bleeding; and therefore, tho' the pain be ever so violent during the whole course of the disease, yet when I intend to effect the cure solely by bleeding, I judge it highly necessary to refrain from opiates, because the disease is fixed thereby, and does not yield so readily to bleeding, so that where such medicines are given too frequently, bleeding must in consequence be oftener repeated than is otherwise necessary. Besides, in the height of the disease, they do not answer the expectations we have conceived of them.

Inconveni-
encies at-
tending the
use of opi-
ates.

Purgings
when pro-
per.

7. Whilst the abovementioned remedies and regimen are carefully continued, I inject glysters made of *milk* and *sugar*, between times, on the intermediate days of bleeding (1); earnestly recommending the exact observance of these directions, for at least eight days after the last bleeding; and then I prescribe a gentle purging potion to be taken in the morning, and in the evening a large dose of *syrup of white poppies* in *cowslip-flower water*; whereby a check is put to the tumultuary motion of the blood, which might otherwise endanger a relapse. This being done, I allow the patient to return by degrees to his customary way of living; in relation to diet, exercise and air; but at the same time caution him to refrain, for a considerable time, from wine and all spirituous liquors, salt or high-seasoned flesh, and in general from all food of difficult digestion.

8. After having repeated bleeding, as above specified, the pain is greatly abated, tho' it does not go quite off; but as soon as the strength returns, which bleeding had

(1) It is not easy to conceive the reason why the author should particularly order glysters, rather than lenients by the mouth; which in the present practice are commonly and successfully given every day, and even cooling purges are administered in this manner from the beginning with all desirable safety and utility.——The best physicians give *nitre* plentifully in the inflammatory rheumatism, which is indeed an excellent medicine in this case, and deserves to be warmly recommended. And in the decline of this disorder, and in the chronic rheumatism, they prescribe *nitre* and *volatiles* mixed, freely, and *blistering*.

greatly

greatly impaired, the symptoms will vanish, and the patient recover perfectly, especially upon the approach of the following season of the year, which will be more conducive to recruit the strength, than that wherein he was first attacked with the disease. Chap. 5.

9. But tho' this, or a similar method, seasonably used in the beginning of the disease, does generally prove successful; yet it frequently happens, when the patient hath been unskilfully treated by a contrary procedure, he is severely afflicted during life with flying pains, which are sometimes violent, and at others more gentle; whereby the unskilful are easily deceived, and they are commonly reckoned symptoms of the scurvy. Mischiefs of a contrary method.

And here by the way, to speak my sentiments freely, I shall add, that tho' I do not at all doubt that the scurvy is to be met with in these northern countries, yet I am persuaded it is not so frequent as it is generally supposed to be; for most of those disorders we term *scorbatic*, are the effects of approaching ills, not yet formed into diseases, and not having hitherto assumed a certain form of appearance; or they are the remains of some disease imperfectly cured, whereby the blood and juices are vitiated. Thus, for instance, in those bodies wherein a matter suited to produce the gout is newly generated, but not yet thrown upon the joints, there appear various symptoms, which occasion us to suspect the *scurvy*, till the formation and actual appearance of the *gout* remove all doubt concerning the distemper. The scurvy less common than it is supposed to be.

10. Neither are we ignorant that as many symptoms, resembling the scurvy, afflict gouty persons after the fit of the gout is over; namely, when an unseasonable use of evacuations, or the advanced age of the patient, or some other cause hath obstructed nature, so as to have rendered her unable to throw off all the gouty matter upon the joints; which being retained, and yet of no use, vitiates the mass of blood, and occasions many dangerous symptoms. And this is to be understood not only of the gout, but also of a beginning *dropsy*. Tho' it is proverbially said, *that where the scurvy ends the dropsy begins*; yet this maxim is only to be understood in this sense, that as soon as the *dropsy* shews itself by manifest signs, the preconceived opinion of the *scurvy* falls to the ground. And the same may be maintained of several other chronic diseases, which are either yet

Sect. 6. growing in the body, and accordingly have not assumed any certain form of appearance; or of those which are partly conquered, but not totally cured. And in reality, unless this be granted, the name of the *scurvy* (as it does at this day) will obtain universally, and comprize most diseases. Whereas if we make an accurate search into the secret causes of every disease, and strip it of the disguise of those irregular symptoms which serve to conceal it, we shall soon discover its species, and easily reduce it to its proper class. Moreover, the method whereby these diseases are to be cured, must not be suited to those irregular symptoms, but to the individual disease, of whatever kind it be, as if it were perfectly formed, and actually existed.

Frequent
bleeding
improper
in an inve-
terate
rheumatism

11. But it is here to be observed, that when the *rheumatism* hath taken deep root by a continuance of some years, it is improper to repeat bleeding at such short intervals, as in the beginning of the disease; and better to interpose some weeks between every bleeding. By this means the morbid matter will either be quite expelled, or at least in so great a degree, that the remains of it may be carried off entirely, by an issue made in one of the legs, and exhibiting a proper quantity of some volatile spirit every morning and evening in canary (*m*).

A *scorbutic*
rheumatism

12. But tho' there is a remarkable difference between the true *rheumatism* and the *scurvy*, as intimated above, it must nevertheless be owned that there is another species of the *rheumatism*, which is near a-kin to the *scurvy*; for it resembles it in its capital symptoms, and requires nearly the same method of cure; and therefore I call it a *scorbutic rheumatism* (*n*). The pain some-
times,

(*m*) In an obstinate rheumatism, accompanied with an impoverished state of blood, there is not a better remedy than the *Peruvian bark*, given between the fever and rheumatic fits, which frequently attack the patient towards evening. It has often cured, when nothing else would.

(*n*) *Hoffman* also observes that there is a *scorbutic rheumatism*, in which the whole mass of the lymph and serum is vitiated with foul, excrementitious, sulphureous, saline, sharp particles, which occasionally manifest themselves by different kinds of eruptions; it proceeds from unwholesome, hard, salt diet, an idle and sedentary life, the common use of a heavy, vapid air, and long continued grief; and hence the inhabitants of sea-ports are generally most subject to it.

Diluent and demulcent remedies taken freely, and continued a long time, are chiefly proper here: mineral waters drunk
with

times affects one, and sometimes another part, but it does rarely occasion a swelling, as in the other species, neither is it attended with a fever. It is also a less-fixed pain, and accompanied with irregular symptoms: sometimes it affects one limb, and sometimes another, sometimes it only attacks the internal parts, and causes sickness, which goes off again upon the return of the pain of the external parts. In this manner the patient is alternately afflicted, and the disease lasts a long time, like those distempers which are esteemed most chronic. It chiefly attacks the female sex, and men of weak constitutions; so that I should have concluded it ought to be referred to the tribe of hysteric disorders, had not repeated experience taught me that it would not yield at all to hysteric remedies.

13. Such likewise as have gone thro' a long course of the *Peruvian bark* are subject to this disease, which by the way is the only ill effect I have ever observed from the use of this medicine. But however it be, this disease, whether it proceeds from this or any other cause, is easily conquered by the use of the following remedies, which I should have concealed had I not preferred the good of mankind to my private interest: for by the help of these alone, I have cured several who were afflicted in the manner I have described, when repeated *bleeding*, *cathartics*, a *milk diet*, the *testaceous powders*, &c. availed not at all.

Take of the conserve of garden scurvy-grass, two ounces; conserve of wood sorrel, an ounce; compound powder of wake-robin, six drams; syrup of oranges, enough to make the whole into an electuary; two drams of which is to be taken three times a day, for a month, drinking after it three ounces of the following distilled water.

The scorbutic electuary.

Take of garden scurvy-grass, eight handfuls; of water-cresses, brook-lime, sage and mint, each four handfuls; the peels of six oranges; nutmegs bruised, half an ounce: infuse them in six quarts of mum, and draw off only three quarts for use in a common still.

The scorbutic water.

with milk, along with a convenient regimen, are likewise of great efficacy in curing this species of the disease.

Se&t. 6. The dose of the compound powder of wake-robin must
 by no means be diminished (o).

C H A P. VI.

Of the erysipelalous Fever.

When the erysipelalous fever arises, and whom it chiefly affects. I. THIS disease affects every part of the body, but especially the face, and it happens at all times of the year, but chiefly at the close of summer, at which time it frequently attacks the patient whilst he is abroad (p). (1) The face swells of a sudden, with great

(o) In a rheumatism, or beginning viscosity of the juices (says Dr Cheyne) where the size and viscosity is uniform, and almost equally dispersed over the whole mass, or is constantly flitting, and not fixed to particular parts (which is what is commonly called a flying gout or rheumatism) the resin or gum guaiac, either alone, (in liberal doses) or joined to the mercurials sine stimulo, with a cool, soft, low diet, either vegetable, or of white meats, with little or no fermented liquors, will do great matters, as I have often experienced. For on bleeding (and frequent small phlebotomies ought to be interspersed) though the blood be sily, with a thick buff, and the serum yellow or dirty, these medicines and the diet, some time continued, will infallibly alter it, or sheath its salts, make its curd more thin and florid, and its serum of a less dark colour, rebate the violence of the pains, and bring natural sleep, ease, and cheerfulness, as I have visibly and sensibly seen, and is a constant and undeniable fact, especially if the corruption be not too deep, and the constitution has ever been tolerably good and firm, and life not too far spent. But the effect will be more readily obtained, if vomits and mercurial purges, as of calomel with resin of jalap, be interspersed, as the strength of the patient will permit. See his method of cure in diseases of the body and mind, p. 156.

(p) Heister observes that the erysipelas is an inflammation which arises in the epidermis, or scarf-skin, and in the fat contiguous thereto, and sometimes spreads very considerably, with redness, heat, and pain. As soon as the part affected is pressed with the finger, it whitens remarkably; but upon taking off the finger becomes red, as before. It ofteneft attacks the arms and feet, sometimes also the neck, head, shoulders, or face, sometimes the nose and other parts. It mostly begins with chilness and shivering; whence there immediately arises such an heat, as is usually felt in burning fevers: and hence it is called both by the antients, and the people of the lower Saxony, ignis sacer, or St Anthony's fire.

It proceeds from the same causes as all other inflammations: but chiefly from sudden cold succeeding a great heat or sweat; obstructed perspiration; drinking some strong liquors, and surcharging

great pain and redness, and (2) abundance of small pimples appear, which, upon the increase of the inflammation, often rise up into small blisters, and spread considerably over the forehead and head, the eyes in the mean time being quite closed by the largeness of the tumor. The country people term it a *blast*, or *blight*; and in reality it differs little from those symptoms which accompany the wounds made by stings of bees, or wasps, excepting only that there are pustules. And these are the signs of the common and most remarkable species of the *erysipelas*.

2. But whatever part is affected by this disease, and at whatever time of the year it comes, a chillness and shivering, unless they preceded a day or two before, as it sometimes happens, generally attend this inflammation, with thirst, restlessness, and other signs of a fever. As the fever in the beginning occasioned the pain, swelling, and other symptoms (which increasing daily sometimes terminate in a gangrene) so in the course of the disease, these symptoms greatly conduce to the increase of the fever, till both are taken off by proper remedies.

3. There is another species of this disease, tho' it happens less frequently. This attacks at any time of the year, and is mostly owing to too free an use of subtile attenuating wines, or some similar spirituous liquor. It begins with a slight fever, which is immediately succeeded by an eruption of pustules, almost over the whole body, resembling those occasioned by the stinging of nettles, and sometimes they rise up into blisters, and soon after disappear, and lie concealed under the skin, where they cause an intolerable itching, and after gentle scratching come out anew (q).

Another species of an erysipelas.

Its symptoms.

4. In charging the stomach; and, lastly, a remarkably hot and sharp blood: all these things being so constituted that they easily thicken the blood, and cause it to stagnate. See his *Institut. chirurg. P. 1. Lib. IV. cap. VI. p. 290.*

(q) Practitioners generally divide the *erysipelas* into two kinds; the *true* and *simple*, and the *bastard* and *scorbutic erysipelas*. The former readily yields to proper internal and external remedies, and is only seated in the surface of the skin; but the latter is more chronic, and by reason of the foulness of the juices lies deeper, is hard to be cured, and easily degenerates into malignant ulcers. This last, therefore, is again subdivided into that which is attended with ulceration, and that without, of which the former is more dangerous, often proves of long continuance, and difficultly admits of being healed.

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4. In order to the cure I conceive (1) that the peccant matter which is mixed with the blood, must be evacuated

The *erysipelas* how to be treated.

Moreover the *erysipelalous fever* is sometimes *idiopathic*, or an original disease; sometimes *symptomatic*, and a secondary disease. A symptomatic *erysipelas* likewise frequently succeeds an *anasarca*, the *ascites*, and an inveterate yellow and black jaundice, and suddenly destroys the patient. It is also often complicated with wounds of the nervous parts, especially of the *cranium* and its membranes, and fractures of the bones, in which cases there is danger. *Hoffman. Med. rat. syst. tom. II. p. 98.*

Under the same head he observes, with respect to the prognostic; that when the *erysipelas* comes out suddenly, and with little commotion, in a good habit of body, and neither attacks a principal part, nor the nervous parts, it is little dangerous, but that by means of a freer perspiration, and the exhibition of proper remedies, the swelling sinks by degrees in a day or two, the heat and pain vanish, the rosy colour is changed into a yellow, the *cuticula* bursts, and scales off, and the disease is happily terminated. Moreover it sometimes exhibits a manifest mark of health; other diseases, especially a *convulsive asthma*, and a *convulsive colic*, having been taken off by an *erysipelas* succeeding them. But where it is large, deeply seated, in a remarkably foul habit of body, and attacks an exquisitely sensible part, it is not void of danger. For either the redness occasions a lividness and blackness, and soon degenerates into a fatal mortification, or the inflammation does not admit of being discussed, but suppurates, and causes ulcers of a bad kind, fistulas, and a gangrene. In foul habits, and in such as are partly sanguine and partly phlegmatic, the *erysipelas* leaves behind it a large tumor of the foot, so that the ankle appears to be three times bigger than it naturally is, and this swelling is very difficultly removed. But those who die of this disease, generally perish by a fever, which is mostly joined with a difficulty of breathing, sometimes with a *delirium*, sometimes with drowsiness, and death generally happens within the *seventh* day.

It is rendered exceeding dangerous by improper treatment, and frequently mortal. I have known the *erysipelas* strike in after taking a vomit, and a strong purgative, whence an inflammation of the stomach, and death have followed. Bleeding likewise has sometimes struck it in, and rendered it wandering with much greater inconvenience. I have also observed that after being repelled in the leg, by a topic made of *camphire*, *red lead*, and *bole*, it has been succeeded by a high fever, an intolerable pain of the stomach, a great difficulty of breathing, bilious vomiting, loss of strength and appetite, which have not gone off, till the *erysipelas* had been invited back to its former seat by a blister, and antispasmodics and mild sudorifics given inwardly. And I certainly know that an *erysipelas* of the head, having been treated by repellent, cooling, binding, or too spirituous applications, and camphorated liniments, has brought on a *vertigo*, lethargic disorders, a quinsy, *delirium*, and palsy of the tongue; which evils have frequently proved

fatal

vacuated in a proper manner, (2) the ebullition of the blood checked by cooling remedies, and lastly (3) that the matter now secreted from the blood be invited out and discussed (*r*). To answer these ends, as soon as I am called,

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fatal to persons in years, and scorbutic habits. Cooling, and oleous applications. such as are made of lead, spirituous liniments, and those containing much camphire, equally occasion the *erysipelas* to terminate badly, and make it degenerate into ulcers of a bad kind; as appears from *Hildanus, Cent. I. obs. 82. Moinichen, obs. II. p. 245. Timæus a Guldenklee, lib. VI. cap. XXIII.*

(*r*) The intentions of cure, according to *Hoffman*, are, (1) by no means to depress the fever, unless it be too high, and if too low to raise it; (2) to soften the subtil, caustic matter lodged in the nervous parts; and (3) to resolve the inflammatory stagnation of the putrid and caustic lymph in the external parts, and make way for its perfect expulsion.

It is a standing rule in practice, he observes, that in acute and eruptive fevers, the body is always to be kept in a gentle breathing sweat, that so an equable motion of the blood may be continued to the surface thereof, and the excrementitious matter, continually carried with it, expelled. Hence this is likewise justly to be observed in the *erysipelas*, as well with respect to the whole body, but chiefly to the part affected, whereby the pain is mitigated, and the discussion powerfully promoted.

The utmost caution is required in the use of externals, to prevent their doing mischief, either by striking in the *erysipelas*, or changing it to an ulcer. Besides, as most persons have a peculiar idiosyncrasy, or a certain specific and individual sensibility, which principally prevails in the skin, as a nervous part; so for this reason also greater circumspection is required in applying topics in disorders of the skin, every particular person not being able to bear all kinds of applications. For I have often observed in an *erysipelas* of the breast, upon applying a very mild plaister, which had been experienced a hundred times in others, that the inflammation and pain in a short time have rather been increased thereby, which, upon taking it off, have immediately abated. Hence it is safest to apply only pargoric species, made of *flowers of camomile, elder, and melilot, liquorice root, and bean flour*, in form of a bag, or powder.

But if, notwithstanding the use of efficacious internal and external discutients, the swelling remains, the redness begins to go off, and a blueness to come on, the pain be more deeply seated, and seems to extend to the *periosteum*, the *erysipelas* tends to suppuration. Then, therefore, we are to have recourse to such things as promote suppuration, yet so as at the same time to check the putrefactive corruption. *Simple diachylon*, with an addition of a sufficient quantity of *camphire* and *saffron*, or *Barbette's lead plaister with soap*, covering it with balsamic epithems, which prevent corruption, are very useful applications. When the matter lies deep, and possesses but a small space, the tumor is to be opened with a lancet, and the matter to be discharged successively, but not all at once. But lest the abscess,

especially

Se^ct. 6. called, I direct a sufficient quantity of blood to be taken away from the arm, which generally resembles the blood of pleuritics. The next day I give my common purging potion, and exhibit a pargoric draught at bed-time, in case it has operated briskly, *e. g.* *syrup of white poppies in cowslip flower water*, or something of the same kind. After purging, I order the part affected to be fomented with the following fomentation.

The emol-
lient fatus.

Take of the roots of marshmallows and lillies, each two

especially in glandulous places, should, after the discharge of the matter, degenerate into a fistulous and malignant ulcer, a balsamic liquor should be injected, made of *tincture of the flowers of St John's wort, essence of balsam of Peru, myrrh, and some drops of spirit of turpentine.*

When the *erysipelas* is very large, and deeply seated, and threatens a mortification, which is known by the colour inclining to a brownish red, and the continuance of the symptoms after the expulsion, then, besides such internals as check inflammation and putrefaction, especially *nitre*, with a small quantity of *camphire*, spirituous and strengthening externals, made of *lime-water, camphorated spirit of wine, wine vinegar with litharge*, mixed also with *essence of scordium*, and *myrrh*, are frequently to be applied to the part affected; pieces of linnen several times doubled being dipt therein.

Bleeding in the *erysipelas* is sometimes hurtful, sometimes serviceable. If an erysipelalous fever attacks plethoric persons, or such as are accustomed to drink spirituous liquors, bleeding in the arm is proper in the first stage of the distemper: for by this means a freer circulation is occasioned, and the expulsion of the matter to the skin promoted. It is so much the more advantageous if the *erysipelas* seizes the head, as it is then preventive of the dangerous symptoms. Sometimes instead of bleeding it is advisable to apply cupping glasses between the shoulders. But always after bleeding care should be had to keep up a free and equable perspiration.

In a *scorbutic erysipelas*, of long standing, such medicines as purify the blood, gentle laxatives, and sudorifics are to be used; purging at first for some days, and afterwards exhibiting sudorifics and diuretics for some time, and repeating them alternately a number of times. And the patient's common drink should be a smoothing decoction, made of mucilaginous roots and woods, along with bitters, especially *succory and dandelion roots, and raisins.*

To prevent the return of this disorder, which is dangerous; the best method is, after having prepared the body by bleeding, or laxatives, or both, as there is occasion, to go through a course of some proper mineral water, under a convenient regimen. But where this cannot be complied with, bleeding; especially spring and autumn, seasonable purgation, and such medicines as cleanse the blood, along with a proper regimen, as to diet, exercise, &c. are commodiously substituted in its stead.

ounces; the leaves of mallows, elder, and mullein, Chap. 6.
of each two handfuls; the flowers of melilot, the
tops of St John's wort, and the lesser centaury, of
each one handful; linseed and fenugreek seed, each
half an ounce; boil them in enough water to leave
three pints, strain off the liquor, and when it is used
add two ounces of spirit of wine to every pint thereof.
Let the part affected be fomented twice a day with
soft flannels dipt in this fomentation hot, and
wrung out, and, after fomenting, bathe it with the
following mixture.

Take of spirit of wine, half a pint; Venice treacle, The mix-
two ounces; long pepper and cloves, reduced to pow-
der, of each two drams; mix them together; cover
the part affected with brown paper, moistened with
this mixture (s). 5. More-

(s) The present practice does not authorise so hot and fiery a
medicine in this case; nor, in the course of my reading, have
I met with so warm a one prescribed by any other author: it
should rather seem to increase the pain and inflammation than
mitigate them, at least in a simple *erysipelas*. Heister recom-
mends digestive powders, made of flowers of elder, liquorice root,
prepared chalk, ceruss, and myrrh, mixed together in equal
quantities, with the addition of a little camphire, to be applied
warm to the part, included in blue or blotting paper, or a
piece of linnen. To this he adds MYNSICHT'S powder against
the *erysipelas*, observing that it is not only frequently used by
the apothecaries, but highly effectual. Amongst the liquid
medicines he observes that camphorated spirit of wine, alone, or
mixed with saffron and treacle, and applied warm, blotting pa-
per, or linnen compresses being dipt therein, is eminently ser-
viceable here; and, on his own experience, tells us that lime
water, and camphorated spirit of wine, mixt together, and ap-
plied in the same manner, is an excellent remedy. See Heist.
Institut. chirurgic. p. I. lib. iv. cap. vi. p. 292.

I once saw an instance of as violent and extensive an *erysipe-
las*, as, perhaps, ever happened. The case was this.—A
middle-aged person, of a hot and bilious constitution, and
somewhat inclined to corpulency, having for some time lost
the use of his arm, from what cause I do not remember, was
advised to apply a stimulating warm fomentation, and a warm
nervous liniment thereto, in order to recover its motion. But
soon after using these remedies, which availed not at all in re-
lieving the complaint, an *erysipelas* arose in the part, and from
thence gained one shoulder, and one side of the face, and af-
terwards extended all over one side of the neck and trunk, both
before and behind. The parts affected were so exceeding ten-
der and painful, as not to abide the most emollient and ano-
dyne fomentation that could be contrived, and a high fever
with great thirst and restlessness accompanied the disorder:
which however yielded, sooner than was expected, to repeated
bleeding,

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 The regimen.

5. Moreover, I order the patient to sup only barley-broth, water-gruel, and eat roast-apples, to drink small-beer, and to refrain from bed some hours every day. By this method the fever and other symptoms are generally soon taken off; if not, I repeat bleeding, and sometimes it is necessary to bleed a third time, interposing a day between each bleeding, that is, if the blood be greatly vitiated, and the fever high. On the intermediate days of bleeding, I order a glyster made of *milk* and *syrup of violets*, and a cooling julap made of the *distilled water of water lillies*, &c. as delivered in the cure of the *Rheumatism*, to be taken in a proper quantity every hour. But a single bleeding, and a purge generally effect the cure, provided they be used in time. The same method is to be used in that species attended with itching and a redness, and resembling the stinging of nettles; only, external applications are less necessary here.

Some other eruptive disorders require a different treatment.

The method described.

6. I shall observe here, by the way, that though not only this disease, but the greater part of such as affect the skin, and are attended with some sort of eruption, in case they are of the chronic kind, readily yield to this method, and accordingly go off in a short time by repeated bleeding and purging; yet there are others that require a very different treatment. For neither the evacuations just mentioned, how frequently soever repeated, nor testaceous powders exhibited to sweeten the blood, at all avail when a noxious, recrementitious matter lies deep in the skin, and cannot be removed but by such remedies as strengthen the tone of the blood, and are consequently proper to open the obstructions of the pores: and therefore in the *violent itchings*, and inveterate eruptions of the skin, of that kind, I have had recourse to the following method with success.

The sudorific bolus.

Take of Venice treacle, half a dram; electuary of the egg, a scruple; Virginian snake-root, finely powdered, fifteen grains; oriental bezoar, five grains;

bleeding, gentle purging, diluting liquors drank freely, nitrous medicines, and emollient cataplasms, often renewed, made chiefly of *elder bark*, boiled in *milk*, with the addition of a small quantity of *ointment of elder*.

It was hoped that the considerable inflammation, which happened here, would have roused the natural heat of the arm, and in some measure restored its former motion, but nevertheless it remained as motionless as ever.

syrup

syrup of candied citron, enough to make them into a Chap. 6.
bolus; which is to be taken every morning, and at
bed-time, for one and twenty days, drinking after it
six spoonfuls of the following julap.

Take of the distilled water of carduus benedictus, six The cordi-
ounces; plague and treacle water, of each two oun- al julap.
ces; syrup of cloves, an ounce: mix them together.

7. The patient should sweat an hour or two every morning after taking the medicine, or rather promote a gentle breathing sweat in bed, for the same space of time, by covering himself with a greater quantity of clothes than usual. This course being over, if the eruption still continue, let the parts affected be anointed with the following liniment.

Take of the ointment of sharp-pointed dock, two ounces; The clean-
pomatum, an ounce; flowers of sulphur, three drams; sing lini-
oil of rhodium, half a scruple: mix them together ment.
for a liniment.

But the medicines above prescribed must by no means be used before sufficient bleeding and purging have been used; which, tho' they do not effect a cure used alone, are however preventive of a fever, which might otherwise arise from the use of such hot medicines (t). To be pre-
ceded by
bleeding
and purg-
ing.

8. There

(t) An erysipelas is undoubtedly an inflammatory disorder, and may generally be safely cured by bleeding, purging, nitre, &c. and ill consequences seldom ensue (under this treatment of it) by freely using such outward applications to the part affected as are cooling and lie easiest upon it. But notwithstanding this, there is something in the nature of this disorder that forbids these means being universally laid down as the method of cure, and outward applications are often very prejudicial, so that great skill and caution are requisite to make a proper choice of them. I am not fond of theories, but in this case I suppose there is a severe humour in the blood, which nature endeavours to discharge by the skin, and hence it is that the cold air, cold applications, and bleeding and purging undistinguishingly have proved fatal to some; and perhaps, when it affects the head, face, or trunk, greater caution is necessary.

The pulse, fever, and other symptoms ought to be our guide in determining, when and how often to bleed the patient, and what quantity of blood to take away, and the same in respect of purging: and by the bye, cuppings, and frequent bleedings in small quantities, are better, in some turns and circumstances, than taking away blood in the common manner.

The patient should always be kept in a perspiring way, and the parts affected particularly warm, to prevent a sudden and prejudicial sinking of the swelling, &c. And if this happens,
a blister

Sect. 6.

An un-
common
eruption,
and its
cure de-
scribed.

8. There is another kind of eruption, tho' less frequent, wherein no evacuations avail. This, tho' it sometimes appears in other parts, generally affects the breast, and fixes itself in some certain place; it rises very little, if at all, higher than the skin, and appears like a broad spot, or a kind of branny scurf, of a yellowish colour. Whilst this spot keeps out, the patient continues pretty well, but when it vanishes, as it frequently does, a slight sickness succeeds, the urine becomes more turbid, and of a deeper red, but somewhat inclining to yellow. This disorder, after using general evacuations, is to be treated in the same manner as the *stubborn itch* abovementioned; only it must be remembered that the use of wine, and flesh of easy digestion, must by all means be indulged, all coolers being rather detrimental than serviceable. In this manner is this last kind of eruption cured; but sometimes it proves so inveterate, as only to yield to a long continued course of chalybeat waters (*u*).

C H A P.

a blister should be immediately applied to the part, if it will properly and conveniently admit it; and if the pulse sinks at the same time, warm sudorifics, and volatile medicines should be administered, and more blisters laid on. But, if, on the contrary, the pulse and fever continue very high notwithstanding the fall of the swelling, bleeding must be used *pro re nata*, and a purge likewise given, especially if it affects the brain; in which case blisters should be applied also. A gentleman, who by the cold air suddenly struck in the erysipelas of his face, and had all the symptoms of an inflamed brain, and was in the most imminent danger, appeared to be snatched from death, by bleeding him in the jugular, and, besides that, applying two large blisters to both sides of the neck, bleeding in the arm, and giving him a strong purge; all which was done in the space of an hour.

If the parts affected threaten a mortification, they should be fomented and treated accordingly; — and indeed an emollient fomentation, and warm milk is generally (if not always) used with entire safety and success. — But I purposely chuse to say little of outward remedies, because I am of opinion they do not greatly contribute to the cure; tho' I have often known the ointment of elder used to the comfort of the patient, and without injury.

(*u*) Amongst the peculiar kinds of the *erysipelas*, there is one which few of the moderns are acquainted with, and the antients have also taken little notice of: it is called by *Pliny*, *zoster*, and by us *zona*. It appears with dangerous symptoms, and surrounds the body, just above the navel, like a girdle, and is generally several fingers broad, and attended with very violent heat, and an eruption of sharp pustules, burning like fire. It

C H A P. VII.

Of the Quinsey.

I. THIS disease comes at any time of the year, but especially between spring and summer; it chiefly attacks the young and sanguine, and also red-haired persons (x). It begins (1) with a chillness and shivering, When the Quinsey happens, and whom it chiefly attacks.

is a pernicious disorder, and sometimes proves fatal. But that is the most malignant of all the kinds, which comes out under the breast, and in the parts near the heart, or in the hands, and other very sensible parts, in old persons, of a very foul habit of body, after a great loss of strength, and sometimes also in malignant and pestilential fevers: it soon becomes livid, and at length black, and death speedily ensues. *Platerus* describes this species in the second vol. of his works, p. 23. under the name of the *broad spot*. *Langius* in his 110th epistle shews how dangerous the *Zone* is, by two instances: and *Tulpius* in his *Medicinal observations*, book 3d. chap. 45. describes a disorder, which seems to be the same with this, under the name of a *herpes exedens* of the *præcordia*. It has been conquered in fourteen days, by mild diaphoretics taken internally, and oil of eggs applied to the part affected.

(x) *Hoffman* defines this disorder; “an inflammation of the throat, accompanied with a burning pain, swelling, redness, a difficulty of breathing and swallowing, along with a fever, arising from a stagnation of the blood, or a viscous, sharp serum in the blood, or lymphatic vessels, and not void of danger.”

In order to gain a just knowledge of this disease, its seat is chiefly to be noted; which is in the throat, especially in those parts which form the *pharynx* and *larynx*, and these are very numerous, and of great use and sensibility. For instance, the root of the tongue, with the *os hyoides*, the passages of the nostrils which open into the mouth, the upper part of the *œsophagus*, the internal and external muscles of the *pharynx* and *larynx*, which are thirteen in number, the large and small glands of the *tonsillæ*, the muscles which move the jaws, and the fine ramifications of the blood, and lymphatic vessels, and nerves.

According, therefore, as the inflammation attacks any of these parts, it is more or less violent, and acquires also different names. The most antient, general division of the quinsey is, into the internal and external kind, or the manifest and latent kind. The former is seated in the internal nervous and muscular teguments of the throat; and therefore no tumor and inflammation are perceived externally in the neck, nor in the mouth, but an internal heat, and an acute fever, and, in case it be very severe, a difficulty both of breathing and swallowing, and much danger accompany it. But the external species rather

Sect. 6. ing, (2) a fever succeeds, and (3) immediately after a pain and inflammation of the *fauces*, which, without speedy

ther extends towards the eyes, and chiefly possesses the external muscular and glandulous parts, the almonds, the root of the tongue, and the *uvula*; and is also more easily resolved.

The most violent and dangerous kind of the *Quinsey*, particularly considered with respect to the part affected, is that which is seated in the internal muscles of the *larynx*, and in which no redness appears outwardly, either in the fore or hind part of the neck, but a burning pain afflicts the patient internally, and not only a loss of speech is occasioned by the contraction of the *larynx*, but likewise a difficulty of respiration, and sometimes a total stoppage thereof, and in so short a time, that it has been often been observed to prove mortal in *twenty four* hours, or on the *third* day. This species is called by the *Græcians*, *cynanche*. But that which they term *synanche* possesses the internal muscles of the *pharynx*, and is equally unattended with any visible external swelling and redness, but accompanied with a greater difficulty of deglutition, than of respiration, and liquids are often violently discharged thro' the nostrils. The inflammation, which attacks the external muscles of the *pharynx*, is called by the antients *parasyanche*, but that which attacks those of the *larynx*, *paracynanche*.

It is divided by practitioners into the *true*, or *acute*, and the *bastard* quinsey. The *true* quinsey arises from a stagnation of the blood, but the *bastard* one from an inflammatory collection of serum, rather than of blood, in the throat, and internal parts of the neck. The former is an acute disease, and always attended with chillness and a fever; but the latter has a lymphatic and catarrhal fever joined therewith, rather than an acute one. Again, in a *true* quinsey, there is not only a burning pungent pain perceived in the internal parts of the throat, but the tongue appears turgid with blood, and of a dusky red, the face is likewise red, the temporal arteries beat strongly, and sometimes faintings succeed: and if it be very violent, a great difficulty of breathing, exceeding anxiety, restlessness, and a coldness of the extremities accompany it: hence it requires speedy relief, and is considerably dangerous. But a *bastard* quinsey is partly free from these violent symptoms, and partly attended with milder ones; and there is also less danger to be apprehended, provided it be properly treated. The quinsey may be further divided into a *dry and very burning one*, and a *moist or very mucous one*. The former proceeds from the blood, and is joined with a very acute fever, as we remarked of the true quinsey; but the latter is rather chronic, attends catarrhal fevers, and is very common in cachectic and scorbutic habits, and furs the tongue, and lines the throat with a thick, clammy *mucus*, and is also accompanied with a stinking breath.

All these species of the *quinsey* deserve to be distinguished from other disorders of the throat. The *true* and *dry* quinsey is not to be taken for that mucous inflammation of the mouth and *œsophagus*, which is usually called, *prunella alba*; for in this the tongue and all the parts of the throat are lined with a

white

speedy relief, hinder deglutition, and prevent breathing thro' the nose, whence suffocation is endangered from the inflammation and tumor of the *uvula*, *tonsillæ*, and *larynx*. This disease is extremely dangerous, and sometimes kills the patient in a few hours, namely, when a large quantity of the febrile matter is thrown upon the abovementioned parts, and the approaching violent symptoms are not timely enough prevented by proper remedies. Chap. 7.

white *mucus*, the tongue is affected with painful fissures, or chaps, and a great heat is also joined with it, which extends even to the *præcordia*. This often happens in malignant fevers, and generally affords a bad prognostic, because it indicates an actual inflammation of the stomach and *œsophagus*. Nor is every inflammation of the throat a quinsey; but that only which is attended with a fever, and a difficult respiration and deglutition.

The quinsey is also frequently *symptomatic*; for it happens in a diarrhoea and dysentery, especially if the discharge be unseasonably stopped, and also upon striking in an *erysipelas*, or wrong treatment of the gout by external remedies, and in the small-pox, malignant and pestilential fevers, with great danger of life.

It often prevails *epidemically*, which is to be ascribed to some bad disposition of the air, and it is then generally complicated with some malignancy. This happens after a long run of moist, rainy weather, in spring or autumn.

With respect to the prognostic, this disease is very dangerous, both on account of its being frequently joined with an acute fever, and endangering suffocation; which latter is chiefly to be apprehended when the muscle called *thyroarthenoideus*, which is designed to close the *larynx*, is affected therewith. It is a bad sign when the swelling of the external parts suddenly vanishes, the symptoms rather increasing than abating at the same time; for the distemper then flies to some other nervous parts, and seizing the brain, occasions a *delirium*, with convulsions; or being translated to the lungs, causes a mortal peripneumony, as *Hippocrates* testifies in the 5th section of his aphorisms, the tenth aphorism. But when the troublesome suffocation remits, and the pain and redness appear more outwardly, and vanish by degrees, it foreshews that the disease will terminate happily. If otherwise, it degenerates into an imposthume, or threatens death. If into an imposthume, and the matter be discharged into the *bronchia* and lungs, the event is very precarious, as *Forestus* testifies, *lib. 14. observ. xxiv.* If it threatens death, this is portended by a frothing at the mouth, a considerable swelling, and a dusky redness of the tongue, a coldness of the extremities, great contraction of the *præcordia*, and anxiety, along with a hard, convulsive, intermitting pulse. A symptomatic quinsey is adjudged dangerous, and can seldom be conquered, by reason of the weak state of the body, and the virulence of the matter. See *Hoffman. Med. rat. system. tom. iv. p. 1. p. 389. and 395.*

Sect. 6. 2. In order to the cure I immediately bleed plentifully in the arm, and presently afterwards in the veins under the tongue; and then I order the inflamed parts to be besmeared with *honey of roses*, strongly acidulated with *spirit of sulphur*; and prescribe the following gargarism to be used, not in the common way, but to be held quietly in the mouth till it grows warm, and then spit out; and this to be repeated between whiles.

The gargarism.

Take of the distilled waters of plantain, red roses, and frogspawn, of each three ounces; three whites of eggs, beat to a liquor; white sugar, three drams: mix them together for a gargarism.

I also order the emulsion described in the cure of the pleurisy, or the like, to be taken daily.

3. I bleed again in the arm the next morning, unless the fever and difficulty of swallowing be in some measure abated, in which case I give a gentle purge; much experience having taught me that this is highly necessary and useful after bleeding. If the fever and other symptoms are like to be violent even after purging, which yet seldom happens, they are to be quieted by repeated bleeding, and applying a large and strong blister to the back. During the whole course of the disease a cooling and emollient glyster must be given every morning, except on the purging day.

The regimen.

4. I enjoin a total abstinence from flesh and broths made thereof, allowing only *barley-broth*, *water-gruel*, *roast apples*, and the like for diet; and *ptisan* or *small-beer* for drink. The patient must likewise sit up some hours every day; for the warmth of the bed increases the fever and its concomitants, which I endeavour to conquer by this method. It is well worth observing, that the *quinsy*, which is only a symptom of a *stationary fever*, must be treated by the same method which the fever demands, and, accordingly, is either to be carried off by perspiration and sweat, or some other method which the original fever whereon it depends, requires (*y*).

5. There (*y*) *Hoffman* observes that the treatment of this dreadful disease differs as the various kinds and causes thereof differ; to the just knowledge and removal of which the intention of the physician ought solely to be directed. When therefore there are manifest signs of a considerable stagnation of blood in the head, which not only augments the inflammation, but occasions fatal symptoms, the physician's first and principal care should be to derive

5. There are other fevers which ought to be enumerated amongst the *intercurrents*, which, by reason of their

derive the impulse of the blood from the part affected, which is most commodiously done by opening a vein contiguous thereto. Bleeding in the jugular gives the most immediate relief: but if this cannot be conveniently done, a vein in the arm is first to be opened, and then the veins under the tongue. In case the disorder proceeds from the stagnation of acrimonious humours in the nerves of the throat, and the coats of the *larynx*, and there be no manifest plethory, scarification in the neck and chin, or the application of leeches is rather indicated. And where a swelling, with a slight pain and inflammation, in foul and phlegmatic constitutions, affects the external parts of the neck, occasioned by an abundance of viscid *serum*, scarification in the neck and shoulders is to be preferred to bleeding. In the next place the body is to be opened, which also invites the humours downwards, and discharges them. Gentle laxatives in a liquid form agree best here; for instance, a decoction made of two ounces of *manna*, a dram and half of *nitre* with *antimony*, and ten ounces of *whey*: this decoction not only evacuates the humours, but smooths their acrimony and saltness. But if nothing can be taken by the mouth, let a glyster be injected, made of *milk*, *honey*, *oil of sweet almonds*, *common salt*, and *nitre*.

The superfluous blood and foul humours being thus evacuated, care is to be had to resolve and discuss the blood, or serous fluid, stagnating in the vessels, by proper internal and external remedies, and at the same time to mitigate the febrile heat. To this end are conducive the frequent use of diaphoretic and mild anodyne mixtures, and diluting liquors drank plentifully.

This disease is farther to be opposed with externals; of which some are to be used by way of gargarism, and some to be applied to the throat and neck; that by these also the pain and inflammatory heat may be mitigated, the acrimony of the humours softened, and the stagnating fluids dissolved. In case of great heat and pain, I would not advise the injection of gargarisms with a syringe; it is sufficient to wash the mouth between whiles with a proper liquor, warm. *Rob*, or *syrup*, of *mulberries*, *syrup of red poppies*, of *violets*, *mucilage of quince seed*, *barley cream*, *nitre*, *sal prunella*, or *dulcified spirit of nitre*, are advantageously used for this purpose; and may be varied according to the circumstances, and mixed with milk, a decoction of *liquorice* or *figs*, or *water gruel*. A proper quantity of a mixture of *fresh oil of sweet almonds*, *sperma ceti*, *saffron*, and *syrup of violets*, given in water-gruel, and held a while in the mouth, is likewise of great service in this case. The remedies which are most frequently applied to the throat and neck, are cataplasms, prepared of pectoric and discutient ingredients boiled in milk, such as the *flowers of elder*, *melilot*, *camomile* and *mullein*, *white lilly roots*, *figs*, *saffron*, *seeds of anise and fennel*, and *linseed flour*, to which some add *swallows nests*, and *album græcum*, as specifics. Lenient and emollient plaisters deserve also to be commended for this purpose, as *simple diachylon*, *melilot plaister*, let down with *oil of sweet almonds*, or rendered

Sect. 6. their terminating immediately some other way, in some peculiar symptoms, are not usually accounted fevers; tho' they were originally such. And the disorder, whence the disease takes its name, is only the symptom of the fever, which terminates at length therein. At present I shall only briefly treat of two of these, namely, *a bleeding at the nose, and a spitting of blood.*

A bleeding at the nose, and its symptoms, described.

6. A *bleeding at the nose* happens at any time of the year, and chiefly afflicts such as are of a hot and weakly constitution, and more frequently in the decline of life, than in youth. Some signs of a fever appear in the beginning, which goes off suddenly, making way for itself thro' the nostrils; but there remains a pain and more effectual by a mixture of *sperma ceti, saffron, and camphire.*

In the use of externals, the different kinds of inflammations of the throat justly merit attention, and the remedies are to be accommodated to each particular species. Accordingly, in every painful and burning inflammation of the throat, the *julap of roses with nitre*, and a small proportion of *camphire*, is very beneficial. *Hartshorn jelly* is also an admirable assistant here. But if the throat be dry, and burns, the tongue swells, and there be a difficult respiration and deglutition, the following *jinctus* is proper.

Take whites of eggs, beat to a liquor, two ounces; rose water, an ounce; syrup of pomegranates and mulberries, of each half an ounce; sal prunella, twelve grains: mix them together.

And the neck and throat are to be anointed with the following unguent.

Take of oil of sweet almonds, an ounce; oil of white poppies, two drams; camphire, half a dram: mix them according to art.

In a latent, internal, and very hot quinsey, the mouth is to be washed between times with only *milk and cream*, with an addition of *sal prunella* and *syrup of red poppies*; and whey to be drank frequently. But in the inflammation of the *œsophagus*, which often happens in malignant fevers, at the state, it is proper to give the following powder internally with an emulsion of sweet almonds, and to hold some of it in the mouth.

Take of white sugar, an ounce; nitre, a dram; camphire, three grains; make them into a powder.

The inflammatory pain, which proceeds from the stagnation of a sharp saline *serum*, in the glandulous parts of the throat, near the seat of the *pharynx* and *larynx*, and is attended with redness, and a copious discharge of *saliva*, but not a fever, is best discussed in the beginning, by gargarizing the mouth and throat with *Rhenish wine*.

When a copious, foul, ferous humour falls upon the glands of the palate and throat, gentle laxatives, and detergent gargarisms, should be frequently used.

heat of the forepart of the head. The blood flows for Chap. 7.
 some hours, and then stops a while, and soon after breaks out anew; and this it does alternately, till at length the hæmorrhage ceases entirely, being stopped either by the use of remedies, or ceasing spontaneously from the considerable loss of blood; but there is danger of a relapse every year, if the blood happens to be much heated by spirituous liquors, or any other way.

7. In this case I endeavour to check the excessive heat How to
 and ebullition of the blood, whence the preternatural be treated.
 extravasation proceeds, and to divert the force of it another way. For this purpose I bleed frequently and copiously in the arm, the blood always appearing like that taken away in a pleurisy; I order a cooling and incrassating diet, as *milk* boiled with thrice its quantity of water, to be drank cold, *roast apples*, *barley-broth*, and other *spoon-meats* made without flesh, and likewise cooling and incrassating julaps, with emulsions, as above prescribed in inflammatory diseases. I advise the patient to refrain from bed some hours every day, and not to omit taking a lenitive and cooling glyster every day also; and an opiate may be exhibited every evening at bed-time, in order to check the commotion of the blood. But as hæmorrhages of this kind are frequently accompanied with an acrimonious lymph, which being mixed with the blood, increases its motion, and opens the mouths of the vessels; besides revulsions and cooling, I usually give a gentle purge, even in the height of the disease, and an opiate in a larger dose than ordinary after the operation is over, and when the symptom is intirely gone off, I give another purge.

8. As to external applications, a linnen compress, dipt in a solution of *sal prunella* in cold water, and gently squeezed out, may be applied to the nape and both sides of the neck, often in a day. And after general evacuations the following liquor may be used (z).

*Take of Hungarian vitriol, and alum, each an ounce; A styptic
 the pblegm of vitriol, half a pint; boil them together liquor.
 till the salts are dissolved; filtre the liquor, when it
 is cold, and separate it from the crystals which shoot
 between whites; lastly, to the remaining liquor add a
 twelfth part of oil of vitriol. Put up a tent dipt in*

(z) See Sect. I. Chap. IV. Par. 48.

Sect. 6.

this liquor into the nostril whence the blood flows, and keep it therein two days (a).

Linnen compresses dipt in this liquor, and applied to the part, will stop any external bleeding (b).

A spitting
of blood de-
scribed,
and its
cure.

9. A *spitting of blood*, which seizes weak persons, of a hot constitution, and disorder'd lungs, and young persons rather than old, between spring and summer, nearly approaches the nature of the hæmorrhage just treated: this being a *fever* likewise, that loses its name and essence, by the *crisis*, whereby it is terminated, with this difference only, that in a *bleeding at the nose* the blood, being too much agitated, flows impetuously to the veins of the nostrils, whereas in this hæmorrhage it hurries to the lungs. And as in the former disorder a pain and heat in the forepart of the head continue to afflict the patient, during the flux of blood, so in this the breast is affected with pain, heat and weakness. This disorder also requires almost the same treatment, only it will not bear purgation, which, especially if it be repeated, endangers a consumption. But frequent bleeding, a glyster injected every day, and *diacodium* taken every evening, along with a cooling and incrassating regimen, and medicines, will effect a cure (c).

10. And

(a) The following from the *Edinburgh* dispensatory is a much more judicious composition.

Take blue vitriol and alum, of each half a pound; water two quarts. Boil till all the salts are dissolved; then filtre the liquor, and to every pint of it add a dram of oil of vitriol.

(b) It is somewhat strange that our author should so positively assert that his styptic will stop any external bleeding. Few good surgeons ever make use of any other styptic than dry lint, and all are trifling when by a wound of the external parts an artery of any considerable size is divided; for then recourse must be had to the needle and thread, which infallibly secures it. All styptics, except dry lint, though too commonly used in the country, are prejudicial to a wound.

(c) In this case the blood is always coughed up (and that *most easily*) from the lungs, and the blood taken away from the arm is greatly inflamed, in proportion to which and other symptoms, bleeding must be repeated. This disorder often requires the loss of a considerable quantity of blood, a strict low diet, diluents, *nitre*, &c. for want of which, particularly large bleedings, it not unfrequently terminates in a consumption. Passionate people are most subject to it.

Our author in this, and several other diseases, recommends *diacodium*, but it must be remembered, once for all, that it is ill trusting to it; because this medicine can hardly always be

made

10. And these are the particulars I have hitherto ob-
 served, concerning that numerous tribe of diseases, Chap. 7.
 which is divided into different species, and comprehend-
 ed under the *generical* name of *fevers*, and of the sym-
 ptoms thereon depending; in which I have solicitously The obser-
 endeavoured not to intrude my own inventions and vations hi-
 imaginations on the world, but, with a candid and ho- therto de-
 nest mind (and consequently attached to no hypothesis) livered
 have given the history of the diseases themselves, and quite prac-
 their natural concomitants, and subjoined the method of tical.
 cure with equal caution and truth. And if an earnest
 desire of discovering and establishing a more certain me-
 thod of curing diseases, has led me to strike out a new
 road, it is hoped that none of the learned will accuse
 me, either of contemning their judgment, and trusting
 too much to my own, or a love of novelty; since the
 success which has attended my enquiries, has hitherto
 much encouraged me, and the experience of my succes-
 sors will undoubtedly vouch for my veracity and ho-
 nesty.

11. In reality, this destructive tribe of diseases, which Fevers de-
 afflicts mankind daily, and destroys at least two thirds of stroy two
 the human species, excepting such as die of a violent thirds of
 death, is not to be opposed in an indolent manner. mankind.
 The continued violence of these distempers, and the
 daily destruction of robust and young persons especially,
 notwithstanding all the helps which the specious me-
 thods, so confidently delivered by theoretical authors,
 have hitherto afforded, gave me little satisfaction when

made of the same strength, whence its effects must consequent-
 ly be uncertain and precarious: for which reason the *Thebaic*
tincture is to be preferred, where opiates are necessary. The
 judicious *Lewis* has a valuable note on this syrup, which con-
 firms the above remarks, and is therefore well worth tran-
 scribing and inserting in this place. "Notwithstanding the
 " pains which several writers (says he) have bestowed upon
 " this favourite syrup, it still remains liable to several objecti-
 " ons; for if it be regarded as an opiate, it will be subject
 " to great variations in point of strength. The difference of
 " seasons will make the poppy heads more or less strong, so
 " that the same weight of heads shall not yield at all times
 " the same quantity of extract. Other circumstances likewise
 " will occasion the same alteration. If therefore a syrup of
 " this kind be really wanted in the shops, it may be more
 " scientifically composed of the extract of opium and sugar,
 " and is observed in *Pharmacop. reformat.* p. 133." — See his
Edinburgh dispensatory, p. 156.

Seēt. 6. I first considered these matters; for I clearly perceived that those trifling disquisitions were so little conducive to the cure of diseases, that such as had recourse to these refuges were not more safe, notwithstanding the pretensions of their dogmatic authors, than such as neglected the assistance of art, and trusted wholly to nature.

12. If therefore I have contributed in some measure to lessen the difficulty and danger that frequently occur in the cure of these diseases (as without breach of modesty I may presume I have) I have gained my end in part, and enjoy the pleasing reward of my labours well spent in promoting the good of mankind. These are nearly all the principal discoveries I have hitherto made, or at least all those that I could reduce to any method, with relation to fevers, and the symptoms thereon depending, to the thirtieth of *December*, 1675, when I finished these essays.

An

An EPISTLE of ROBERT BRADY, M. D.
 Master of Caius Collège, Cambridge, and Re-
 gius Professor of Physic there, to Dr SYDEN-
 HAM.

Learned Sir,

NO physician but yourself has hitherto attentively considered the force of the air, and its influence on the human body, the manner of its acting in preserving life, the great share it has in the fermentation, alteration and circulation of the blood, and in performing animal motion. Neither have physicians or naturalists ever searched diligently and accurately into its natural temperature and manifold changes; which *constitutions* you have judiciously delineated (*d*).

In reality, as the air insinuates itself into all, even the remotest parts of the body, it must needs communicate the changes it undergoes from the substances wherewith it is impregnated to the blood and juices; and hence any particular depravity of the blood, generally, arises from some certain ill constitution of the air. You have, therefore, wisely formed your medicinal observations of the history and cure of *acute diseases* agreeably to the various *constitutions* of years, and their seasons; for the impressions of the air upon the blood and juices, and especially upon the spirits, which perhaps are formed of air, are manifest in these; and I am persuaded that the nature of fevers, as deduced from observing the temperature of the air in those years wherein they prevailed, constitutes the most useful, if not the only, method of establishing a sure basis for practice. Let me intreat you, therefore, if you have any observations relating to the fevers of the immediately preceding years, to publish them, by which means you will highly promote the good of mankind.

In *Seet. I. Chap. V.* of your work, you have briefly treated of the use and manner of giving the bark. I know some eminent physicians, who give it in a large

(*d*) However truly this might be then said of our author, yet since his time the ingenious Dr *Arbutnot* has given us a valuable treatise on air: and *Boerhaave* and *Hoffman* have treated largely of it, both philosophically and medically: and *Bernerus*, another learned foreign physician, has wrote a judicious essay on it, intitled, *Exercitatio de usu Aëris mechanico in corpore humano*, printed at *Amsterdam* in 1723; to which we refer our readers for abundant satisfaction on this interesting subject.

quantity,

quantity, and repeat it frequently; and others who prepare extracts and infusions of it, and make the infusions into emulsions, julaps, &c. affirming that by this means they can certainly cure intermittents, and likewise some continued fevers. It is doubtless an excellent remedy in intermittents, and I have used it twenty years successfully in a variety of forms and preparations. If, however, you have experienced any particular or better method of giving it, pray publish it.

In the cure of the rheumatism you have proposed frequent and copious bleeding as necessary (*e*): I should be glad to know if it will not yield with equal certainty to some gentler method. But whilst you employ your time in these studies, you will be grievously censured and calumniated by envious and malicious men, who will no more spare your name and reputation on this occasion, than they did formerly, tho' by using you so ill they incur the displeasure of the candid and ingenuous part of mankind, who generally treat such slanderers with contempt.

And, in reality, if they would be acquainted with a history of fevers, their essences, causes, differences, and true method of cure, derived from a long course of experience, they must necessarily follow you as their guide, as there is scarce any other way of coming at this knowledge, except that which you have discovered.

Be not deterred, therefore, from pursuing your enquiries, despise the raillery of the superficially learned, and assist the candid part of mankind: you have pointed out the way, and if your endeavours displease, it lies upon those who censure them to shew us a better.

I take my leave, worthy Sir, with assuring you, that your compliance with my request will oblige the whole faculty, and, amongst the rest,

Your most obliged Friend,

Cambridge,
Dec. 30. 1679.

R. BRADY.

(*e*) See *Sect. VI. Chap. V. Par. 4.*

Dr SYDENHAM'S *Answer to Dr BRADY*: containing the History of the epidemic Diseases from the Year 1675 to 1680.

Dear Sir,

I. **I**F I have in the least contributed by my observations to improve the methods of cure in diseases, it doubtless becomes me in particular to communicate them, more freely than other men, to those who desire it; for as I am satisfied that my knowledge does not exceed that of others, it can do me no prejudice to publish such trite and inconsiderable remarks. If, therefore, I have made any beneficial discoveries in physick, and better ascertained the methods of cure in distempers, the imparting them does not entitle me to the same praise, as it would do others, who can easily imagine the vast satisfaction it would afford me, who have had the gout these thirty years, and been a long time severely afflicted with the stone, to be informed of a method that would give me relief.

The author's modesty.

2. But few persons are endow'd by Almighty God with such qualifications, as may make them serviceable to mankind in this case, and it can only be successfully accomplished by those whose abilities are superior to mine. Nevertheless I have always thought it a greater happiness to discover a certain method of curing, even the slightest disease, than to accumulate the largest fortune: and whoever compasses the former, I esteem not only happier, but better and wiser too. For can a person give a stronger proof of his benevolence and wisdom, than by endeavouring always to promote the publick good, rather than his private interest, as he makes so small and inconsiderable a part of the whole? For, to use the expression of *Cicero*, that great master of thought and diction, and genius of his age, I may say of mankind; *As the laws prefer the good of the whole to that of particulars, so a wise and good man, who knows his duty, and obeys the laws, consults the good of mankind more than his own or any single person's (f)*. And in reality, as it is the part of a wicked man to destroy his fellow-creatures, so it is the duty of a good man to preserve

The duty of eminent men.

(f) *Cic. de fin. bon. & mal.*

them,

them, and instruct others how to save them from death even after his own decease. Nor can any thing be more inhuman and detestable, than to insinuate a disregard and unconcern for whatever misfortunes may happen to mankind after our death.

The author complains of injurious treatment.

3. But, not to insist upon these particulars at present, I must own, I think myself obliged to communicate to you the discoveries I have made relating to the diseases you inquire after, however trifling they may seem. I must likewise return you thanks for the resentment you are pleased to express of the ill treatment I have received from some persons, whose censures I should have escaped, if the blameless conduct of a person, who has injured no man in words or actions, could have secured me. But since this has been occasioned by no fault of mine, nor I hope ever will, I am determined to give myself little concern for the failings of others, being convinced that all that is incumbent on me is to act like an honest man, and discharge the office of a good physician to the best of my ability.

Epidemics to be first treated of, and in what manner.

4. I will therefore deliver the observations I have made concerning the diseases you enquire after in your letter. And, first, I will treat of the present epidemic intermittents; in doing which I conceive it may be proper to run thro' those years methodically, but briefly, which succeeded that wherein I concluded my history of the *acute diseases*, which had prevailed for fifteen years preceding, and just to recapitulate some particulars relating to their cure, that have already been taken notice of. By this means we shall more clearly perceive at what time, and by what degrees, the present reigning constitution of fevers crept in.

The diseases of 1676 the same with those of the three former years.

5. The year 1676 gave rise to the same tribe of diseases, as were generated by the constitution last mentioned, in our observations above deliver'd, *viz.* those of 1673 (in the autumn whereof it first began) 1674, and 1675. But this constitution being in its decline, the diseases that appeared were milder than ordinary, and not so epidemic, notwithstanding the peculiar disposition of this year, with respect to the manifest qualities of the air, in which it differed considerably from the preceding years; for the heat of the summer, and the cold of the winter, were much greater than in most years within our remembrance. And yet, as so great a dissimilitude

disfimilitude of seasons gave rise to fimilar difeafes, it is plain from hence that the fecret temperature of the air favours their production more than its manifefit qualities (g). But it muft be owned that the fame difeafes, with refpect to fome certain fymptoms, depend fometimes on the manifefit difpofition of the air, as appears from the *meafles* and *cholera morbus* of this year, of which I fhall briefly treat.

6. Thus, the *meafles* that appeared in the beginning of the year, tho' it was not very epidemic, was remarkable for its longer duration; for whereas, it began as ufual in *January*, increafed till the vernal equinox, and then abating gradually, almoft went off at the fummer folftice, it continued this year till near the autumnal equinox, occafioned perhaps by the fummer's heat, whence it gained force, fo as to laft longer; yet nevertheless it required no new method of cure.

7. At the clofe of fummer the *cholera morbus* raged epidemically, and being rendered more fevere by the extraordinary heat of the feafon, was accompanied with more violent and inveterate convulfions, than I had hitherto obferved. For not only the *abdomen* (which is ufual in this cafe) but all the mufcles of the body, and efpecially thofe of the arms and legs, were affected with terrible fpafms, fo that the patient would fometimes leap out of bed, and writhe himfelf all manner

(g) Perhaps our author afcribes too much; here and elfewhere, to the *fecret temperature of the air*, which probably has a great fhare in the production of contagious difeafes; but how it influences thofe of another fpecies has not hitherto plainly appeared. Whereas, on the contrary, the *manifefit or fenfible qualities of the air*, fuch as its heat, cold, drynefs, moifture, &c. have evidently a confiderable power over epidemic difeafes, the fymptoms whereof feem to take their rife, fuffer great variations, and are fatisfactorily accounted for from the preceding, or the then reigning manifefit difpofition of the air; or both jointly. The different feafons of the year, the variation of the winds, the fituation of places, the nature of the waters, and the manner of living of the inhabitants are alfo to be confidered in this view, as thefe eminently contribute to the rife and courfe of epidemic difeafes. For proof of this the reader may confult Dr WINTRINGHAM's *commentarium nofol.* HUXHAM *de aer. & morb. epidem.* HILLARY's *account of the principal variations of the weather, and the concomitant epidemic difeafes, at RIPPON, &c. during the fpace of eight years; which is added to the fecond edition of his effay on the SMALL-POX.* RAMAZZINI *conftitut. epid. Mutinenf.* HOFFMAN. *med. rat. fyft.* &c.

of ways, in order, if possible, to mitigate their violence.

It required stronger opiates than ordinary.

Exemplified in a case.

8. But tho' this disease admitted of the usual method of cure, yet stronger *opiates*, and a more frequent repetition of them than ordinary, were manifestly indicated. To exemplify this observation: I was called to a person at this time, who was reduced to the last extremity by the abovementioned symptom, attended with excessive vomiting, cold sweats, and a scarce perceptible pulse; Dr *Goodal* accompanied me (whose name I can never mention, without calling to mind his probity and candour, his friendship for me, and his indefatigable endeavours to discover and cure diseases;) I gave the patient twenty five drops of my *liquid laudanum* in a spoonful of *strong cinnamon water*, for as there was a very great inclination to vomit, I was apprehensive that a larger quantity of the vehicle might occasion the medicine to be vomited up, as it often happens in such cases. I waited near half an hour, and finding the medicine too weak to stop the vomiting, and take off the convulsions, I was obliged to repeat it, and increase the dose proportionably, till these obstinate symptoms were at length quieted; observing however to give it at such intervals, that I might be able to conjecture what effect the last dose would have, before I exhibited another. The convulsions, notwithstanding, being apt to return upon the least motion, I strictly enjoined that the patient should be kept very still for a few days, and take the abovementioned medicine between whiles in a smaller quantity, even after his recovery, in order to prevent a relapse: and this method had the desired success.

The author's reasons for giving *laudanum* copiously.

9. Nor ought I to be accounted too bold for exhibiting *laudanum* so plentifully, since experience will clearly shew, that in disorders where opiates are indicated, *viz.* violent pain, vomiting, or an immoderate *looseness*, and great hurry of the *spirits*, the dose of the medicine, and its repetition in point of frequency, must be proportioned to the urgency of the symptom. For such a dose as may conquer a slight symptom, will be rendered ineffectual by a more violent one; and what would otherwise endanger life, will in such a case be a means of preserving it.

Prevented by sickness from ob-

10. These are the diseases that prevailed this year, being the same, as I have already intimated, with those of the

the three preceding years. But I can give no account of ^{the} those that raged in the following year, *viz.* in 1677. ^{diseases of} For at the beginning of it I made bloody urine upon ^{1677.} the least motion, and was soon after attacked with the gout, which did not affect my limbs so much as my bowels, where I had violent pain; and these disorders were succeeded with a decay of strength, a loss of appetite, a swelling of the legs, and other equally dangerous symptoms; so that death would then have been welcome to me. My ill state of health at this time confined me within doors for three months, and afterwards obliged me to go into the country for my recovery, and make almost as long a stay there. I came back to town in autumn, when my friends informed me that there still remained a few intermittents here and there, most of which had first seized the patients in the country; but having been prevented from attending the sick by my own indisposition, I can give no account of the diseases of this year.

11. The constitution of the following year, namely *Intermittents* of 1678, being entirely changed, so eminently favoured ^{Intermittents arose,} *intermittents*, that they again became epidemic, where- ^{and be-} ^{came epi-} ^{demic in} as from 1664 to this time, including the space of thir- ^{1678.} teen years, they were in a manner extinct in town, except only that they seized a few *sporadically*, or were by accident brought with them out of the country. And they will not continue in this state, but will spread much more, till this constitution of the air whence they proceed comes to its height. For tho' only a few of these *intermittents* arose in the spring, yet they prevailed so much over all other diseases at the decline of summer and beginning of autumn, as to be the sole epidemic diseases. But in the winter they yielded by degrees to the *small-pox*, and the other reigning epidemics, till the return of the season peculiar to them.

12. To proceed now to deliver what we have learnt ^{Tertians} by diligent observation, relating to the nature and causes ^{and Quoti-} of these fevers. First then it is to be noted, that tho' ^{dians most} *quartans* were more frequent formerly, yet now ^{frequent,} *tertians* or *quotidians* were most common, unless the latter be entitled *double tertians*; and likewise that tho' these *tertians* sometimes began with chilness and shivering, which were succeeded first by heat, and soon after by sweat, and ended at length in a perfect intermission, re-
turning

turning again after a fixed time, yet they did not keep this order after the third or fourth fit, especially if the patient was confined to his bed, and used hot cardiacs, which increase the disease. But afterwards this fever became so unusually violent, that only a *remission* happened in place of an *intermission*; and approaching every day nearer to the species of continued fevers, it seized the head, and proved fatal to abundance of persons.

Dangerous to attempt their cure by *sudorifics*.

13. As to the cure, I have learnt by many years experience that it is dangerous to attempt to remove *tertians* and *quotidians* by *sudorifics*; especially when they are recent, and have assumed no certain shape; for they then nearly approach to continued fevers. And tho' it is well known that as soon as the sweat breaks out, the restlessness and other symptoms presently go off, and a perfect intermission succeeds, and consequently that it should be somewhat promoted, or at least not hindered, when the fit is going off, yet it is manifest that if sweat be forced beyond the due degree, the intermittent becomes a continued fever, and life is endangered: I conceive the reason of this to be, that so profuse a sweat (since it exceeds the quantity of the febrile matter, already so attenuated by the heat of the fit, that it may now be expelled by despumation) after it has carried off such a part thereof, as is sufficient to produce a single fit, wastes the rest in inflaming the blood. Upon considering, therefore, the inefficacy of this method, and the inconveniences attending other evacuations, as bleeding and purging, both which, by weakening the texture of the blood, prolong the disease, the *Peruvian bark* afforded me the surest hope; of which I can truly say, notwithstanding the prejudice of the vulgar and a few of the learned, that I never found, or could reasonably suspect, any ill consequence follow its use; unless that such as have taken it a long time are sometimes seized with a *scorbutic rheumatism*, as I have before remarked in treating of the *Rheumatism* (b). But this disorder seldom proceeds from this cause, and, when it does, readily yields to the remedies there prescribed.

The bark not only good in intermittents

14. And, in reality, if I were as certain of the continuance of its effects, as I am of the innocence of the bark, I should not scruple to prefer it to all the medicines hitherto known; since it is not only excellent in

(b) *Señ. VI. Chap. V. Par. 13.*

this disease, but likewise in those of the *uterus* and *stomach*: so little reason is there to complain of its unwholesomeness.

15. But I conceive the bark has been condemned, chiefly, for the following reasons. (1) Because the many terrible symptoms, which accompany intermittents of a long standing, where not a grain of the bark has been given, are immediately ascribed to it, upon taking but a single dose of it. (2) Because it cures the disease by a secret virtue, and not by any sensible evacuation, many persons conclude that the morbid matter, which ought to have been expelled, is retained in the body by its astringency, and ready to occasion fresh disturbance; the disease not being entirely carried off. But such persons do not sufficiently consider, that the sweats happening at the decline of the fit have expelled all the morbid matter that was collected on the well days, so that only the seeds of the disease remain, to be ripened in time; and that the *bark*, by closely pursuing the retiring fit, and cutting off the supplies of the illness, cannot be a means of retaining the morbid matter in the blood, which is now existent there only in *embryo*; and consequently is not to be esteemed productive of those fits and obstructions which are commonly judged to proceed from its use.

16. But how does it appear that the *bark* cures *intermittents* by its astringency? In order to prove this, other astringents, possessed of the same virtue, must first necessarily be produced; I have tried the strongest ineffectually. Besides, the *bark* cures even where it purges, which is sometimes the case. Upon the whole, therefore, they act the wisest part, who confine their enquiries to their abilities. But if any body will delude himself and imagine that he is possessed of other faculties than such as either help him to understand natural religion, which teaches that God, the creator and governor of all things, is to be worshipped with profound veneration, as he justly merits; or moral philosophy, that he may practise virtue, and make himself an useful member of society; or, lastly, the medical, mathematical, and mechanical arts, which are so useful to the purposes of life: let him, first, deduce an hypothesis from natural philosophy, that will enable him to explain the cause of but a single specific difference of things in nature.

Why it has been exclaimed against.

It does not appear to cure by its astringency.

nature. For instance, let him account for the universal greenness of grass, and why it is never of any other colour, and the like. And if he can do this, I will readily embrace his sentiments; but if not, I shall not scruple to affirm, that all the diligence and caution of a physician should be employed in investigating the history of diseases, and applying those remedies which stand recommended by experience for the cure thereof; pursuing notwithstanding that method which is founded on right reason, and not the result of idle speculations. I will therefore briefly deliver what experience hath taught me, relating to the method of exhibiting the *bark*.

A short
history of
the *bark*.

17. The *Peruvian bark*, commonly called the *Jesuit's powder*, to the best of my remembrance, began to be esteemed at *London*, for the cure of intermittents, and especially *quartans*, about twenty five years ago; and indeed very deservedly, as these diseases were seldom cured before by any other method, or medicine; whence they were reputed the *opprobria medicorum*, and not without reason. But not long after it lost its character, and was entirely disused, for two cogent reasons. (1) Because being exhibited only a few hours before the coming of the fit, according to the received custom of that time, it sometimes destroyed the patient; which I remember happened to Mr *Underwood*, a citizen and alderman of *London*, and to captain *Potter*, an apothecary in *Black-Friars*. This fatal effect of it, tho' very rare, did, however, justly prevail with the more prudent physicians to refrain its use. (2) Because tho' it seldom failed to free the patient from the fit, that would otherwise have come, yet the fit commonly returned again in a fortnight, especially when the disease was recent, and not spontaneously abated by length of time. These reasons weigh'd so much with the generality, that they lost all the hopes they had formerly conceived of this medicine; nor did they esteem it so material to prevent the access of a fit for a few days, as upon this account to endanger their lives by taking it (i)

18. But

(i) It is much to be questioned whether the fatal effect of the *bark* here mentioned by our author is really to be ascribed to it; because there are very few such instances upon record, and we neither know nor have heard of any such effect produced by it of late years. And in intermittents, the present practice

18. But having some years since thoroughly considered the extraordinary virtues of the *bark*, I was firmly persuaded that *intermittents* could not be better cured than by this efficacious medicine, provided it were given with proper caution. For this reason I spent much time in studying how to prevent the danger ensuing from its use, and the relapse that succeeded in a few days, which were the two inconveniences to be avoided, and by means thereof to restore the patient to perfect health.

The best medicine in inter-mittents.

19. (1) I conceived that the danger proceeded less from the *bark* itself, than from the unseasonable use thereof; for when a large quantity of febrile matter is collected in the body on the well days, the *bark*, if taken immediately before the fit, obstructs the expulsion of the morbid matter in the natural way (namely by the violence of the fit) which being hereby improperly detained usually endangers life. But I judged I could remedy this evil, and likewise prevent the fresh generation of febrile matter, by giving the powder directly upon the departure of the fit, so that a stop might be put to the next succeeding one; and by repeating it on the intermediate days, at proper distances, till the approach of a new fit; so that by this means the blood might be impregnated gradually, and consequently safely, with the salutary virtue of the *bark*.

How render'd more certainly effectual.

20. (2) As the relapse, which generally happened in a fortnight, seemed to me to be occasioned by not sufficiently impregnating the blood with the virtue of the febrifuge, which, however efficacious, was not powerful enough to cure the disease at once, I judged that the best method to prevent a relapse would be to repeat the powder, at proper intervals, before the virtue of the preceding dose was quite spent, even tho' the *intermittent* appeared to be conquered for the present.

21. These considerations led me to the following method, which I now use. When I am called to a person afflicted with a *quartan*, suppose on a *Monday*, if the fit is expected the same day, I refrain from doing any thing, and only give the patient hopes that he shall be freed from the next fit. And, in order to effect this, I exhibit the *bark* upon the two intermediate or well

The method specified.

days acknowledges no more effectual, and safer medicine, indeed nothing comparable to it in the whole *Materia medica*.

days, namely, *Tuesday* and *Wednesday*, in the following manner.

The febrifuge electuary.

Take of *Peruvian bark*, very finely powdered, one ounce; *syrup of cloves*, or of dried roses, enough to make it into an electuary; to be divided into twelve doses, whereof let the patient take one every fourth hour, beginning immediately after the fit is gone off, and drinking after each dose a draught of any kind of wine.

Or, if pills be more agreeable,

The febrifuge pills.

Take of the *Peruvian bark* very finely pulverized, one ounce; *syrup of cloves*, enough to make it into pills of a middling size; of which let the patient take six every fourth hour.

But an ounce of the powder may be mixed with a quart of *claret*, with less trouble, and equal success, and eight or nine spoonfuls of it given at the intervals abovementioned. I order nothing on *Thursday* when the fit is expected, because for the most part it does not come, the remainder of the febrile matter being despumated, and expelled the blood, by the usual sweats which terminated the preceding fit, and a collection of fresh matter being prevented by the repetition of the powder on the days between the fits (*k*).

22. But

(*k*) *Dr Barker* in his enquiry into the epidemic fever, after observing that by the common method of giving medicines in trifling and insufficient doses, good ones are but too often brought into disrepute, the intention of the physician frustrated, and the patient's expectation disappointed, acquaints us that physicians ran into this error formerly, with relation to the bark, through an over cautiousness; and that *Sydenham* was the first that broke thro' this constraint, and ventured to give it in large doses. I have a letter of his, (he adds) in manuscript now before me, wherein he says, "I have had but few trials, but I am sure that an ounce of bark, given between the two fits, cures, which the physicians in London not being pleased to take notice of in my book, or not believing me, have given an opportunity to a fellow, that was but an apothecary's man, to go away with all the practice on agues, by which he has got an estate in two months, and brought great reproach on the faculty."——This letter was wrote in *October* 1677, which falls in so exactly with the time of *Talbor's* first appearance, as a practitioner, (for we have an account of his being in *France* in 1679*) that *Sydenham* must certainly allude to him. And it appears from hence that *Sydenham* was the

* Geoffroy, materia medica, tom. II. p. 183.

22. But in order to prevent a relapse, which was one of the inconveniences above recited, on the eighth day after taking the last dose, I always ordered the same quantity of the powder, (*viz.* an ounce divided into twelve doses) to be taken exactly as the former was. But tho' a single repetition of the *bark* in this manner frequently cures the disease, yet the danger is not over unless the patient will be ruled by his physician, and repeat it thus a third or fourth time; especially when the blood has been impoverished by some preceding evacuation, or the body unadvisedly exposed to the cold air.

The first quantity of the *bark* to be repeated 3 or 4 times.

23. Now tho' there is no inherent purgative virtue in this medicine, yet a violent purging is frequently occasioned thereby, from some peculiar *idiosyncrasy* in the constitution. In this case it is indispensably necessary to exhibit *laudanum* therewith, to prevent its having this effect (which is manifestly as opposite to its own nature, as it is to this disease) and that it may be retained long enough to answer its end. Therefore I order ten drops of *laudanum*, to be given in a little wine, after every other dose of the powder, if the looseness continues.

To be given with *laudanum*, if it purges.

24. I follow the same method in other intermittents, whether *tertians* or *quartans*: for immediately after the fit is gone off, in both I administer a dose of the powder, and repeat it as frequently during the intermission, as the nature of the disease will admit; but with this difference; that whereas a *quartan* can very rarely be cured with less than an ounce divided into proper doses, a *tertian* may be so far conquered with six drams, as at least to give a respite.

The same process to be used in *tertians* or *quartans*.

25. But tho' *tertians* and *quotidians* after a fit or two may seem entirely to intermit, yet, as I have before observed, they afterwards frequently degenerate into a kind of continued fevers, and only come to a *remission*

Tho' there be only a *remission*.

person who struck out the method of giving an ounce of *bark* between the fits, instead of a dram, or two, which was the usual dose before that time; which method Sir Robert Talbor has generally hitherto had the credit of, and for which he was knighted by king *Charles* the second.

It were to be wished for the benefit of mankind, that *physicians* would imitate *Sydenham's* practice more than is usually done, in this particular, since there is no possibility of discovering, except by this means alone, how far the powers of medicines extend. See p. 112. of the book above cited. — And *Cheype's* method of cure in diseases of the body and mind, p. 163.

even on those days that promised an *intermission*; especially when the patient has been kept too warm in bed, or been tormented with medicines to carry off the intermittent by sweat. In this case, I have no other way left, but to seize the opportunity of the *remission*, tho' it be ever so small; and accordingly I give the powder immediately after the fit is gone off, as near as I can conjecture, and repeat it every four hours, as above-mentioned, without waiting for a regular intermission, because otherwise the *alexiterial* virtue of the *bark* cannot be communicated to the blood in so short an interval (1).

The more the intermittent tends to a continued fever, the more bark must be given.

26. And tho' the present reigning *intermittents*, after the second or third fit, incline to *continued* fevers, yet they must be referred to the *intermittent* kind; and therefore I scruple not to order the *bark*, even in the most continued of this sort; the repetition of which in the abovementioned manner will certainly remove the disease, provided the constant warmth of the bed, and the improper use of cardiacs, have not rendered it a *continued fever*; in which case I have frequently found the *bark* fail. Nor have I ever found the wine wherein the *bark* is administered, do the patient any harm, which might reasonably be suspected; but contrariwise the heat, thirst, and other febrile symptoms generally went off, soon after taking a sufficient quantity of it. But it must be noted here, that the nearer the *intermittent* approaches to a *continued fever*, either spontaneously, or from using too hot a regimen, the more necessary it is to exhibit a larger quantity of the *bark*; for I have sometimes found that the *intermittent* would not yield to less than an ounce and half, or two ounces of the *bark*.

To be given in infusion, where it can be taken in no other form

27. As some persons can neither take the *bark* in powder, in an electuary, nor in pills, I give them an infusion of it, made with two ounces of *bark*, grossly powdered, and infused cold for some time in a quart of *Rhenish wine*; which being several times passed thro' a fine strainer, becomes so clear, as not to be disagreeable to the nicest palate. Four ounces of this infusion, after it has stood some days, should seem equivalent in virtue to a dram of the bark in substance; and as it is neither unpalatable, nor lies heavy upon the stomach, it may be taken twice as often as any other form of it, till the disease vanishes.

28. When

(1) See Par. 38. pag. 317. note (t)

28. When this disease has assumed no regular appearance, it is sometimes attended with an almost continual vomiting, so that the bark cannot be retained in any form; in which case the vomiting must be stopt first, before it can be administered. For this purpose I order a scruple of *salt of wormwood* to be dissolved in a spoonful of fresh *juice of lemons*, and taken six or eight times in the space of two hours; and afterwards I give sixteen drops of *liquid laudanum*, in a spoonful of *strong cinnamon water*; and soon after, if the vomiting stops, the patient must begin with the bark.

In case of vomiting, this must be stopt before giving the bark.

29. For children, who, by reason of their tender age, can scarce bear to take this remedy in any other form, at least in a suitable quantity to effect a cure, I generally prescribe the following julap (m).

To be given in a julap to children.

Take of *black-cherry water*, and *Rhenish wine*, each two ounces; *Peruvian bark*, finely powdered, three drams; *syrup of cloves*, an ounce: mix them together for a julap. Let the child take a spoonful or two every fourth hour (according to his age) till the fits vanish, dropping into every other dose, in case of a looseness, one or two drops of *liquid laudanum* (n).

The febrifuge julap.

30. It must further be observed, that the intervals between the fits in *tertians* and *quotidians* are so short, that there is not sufficient time to impregnate the blood thoroughly with the febrifuge virtue of the bark: so that it is not possible that the patient should so certainly miss the next fit the first time of taking it, as it commonly happens in a *quartan*; for the medicine in these cases will frequently not perform the expected cure in less than two days.

The bark, in *tertians* or *quotidians*, does not always put by the fit the first time of taking it.

(m) The method of curing intermittents by glysters, (a discovery ascribed to *Helvetius*) was not known in our author's time; which, however, is not to be equally depended upon with that by the mouth. But in some cases it becomes necessary to have recourse to it, and it is often attended with success. Grown persons as well as children have been cured by it.

(n) As children are generally very averse to taking medicines, it must always be remembered that they are to be made as palatable as possible, ordered in a proper form, and administered in as small a quantity as is consistent with efficacy.— Few children will be prevailed on to take this nauseous julap: I prefer a strong infusion of the *bark*, sweetened with some agreeable syrup, which numbers will take readily enough, and being exhibited in a proper quantity certainly cures.

What to
be done in
case of a
relapse.

31. It must also be noted, that if the patient, notwithstanding the observance of the cautions above delivered, should relapse, which happens seldomer in a *quartan* than in *tertians* or *quotidians*, it will become a prudent physician not to adhere too closely to the method of giving the bark at the abovementioned intervals, but to attempt the cure, as his judgment shall direct, by some other procedure; and here the *bitter decoction* is generally esteemed a very powerful medicine.

The regi-
men in in-
termittents

32. With respect to diet and regimen, the patient must be allowed the use of all sorts of solid or liquid aliments that agree with his stomach; fruit and cold liquors always excepted, because they impoverish the mass of blood, and are very apt to occasion a relapse. Let his food therefore be flesh of easy digestion, and good juices, and let him use wine moderately for his common drink; by the sole use whereof I have sometimes recovered such habits as have been in a manner fortified by the frequent return of the intermittent against the bark, so as never to yield to its salutary virtue. The patient likewise must not advisedly expose himself to the cold air, till the blood has recovered its former healthy state.

A caution
concerning
purging.

33. It must be noted here, that tho', in treating of intermittents heretofore, we recommended due purging after the disease was gone off (o), yet this practical caution is only to be understood of such intermittents as either went off spontaneously, or were cured by some other medicine, and not by the bark. For when the cure is effected by this, cathartics are unnecessary and hurtful; so powerfully does the bark, alone, relieve the fits, and the indisposition they occasion. Hence therefore all kinds of evacuations must be refrained; for the gentlest purge, nay even a glyster of *milk* and *sugar*, will certainly endanger a relapse, and perhaps reproduce the disease (p).

These in-
termittents
had sym-
ptoms re-
sembling a
true apo-
plexy.

34. And here it is proper to mention that a very remarkable symptom did sometimes succeed these intermittents in the first years of this constitution. For the fits did not begin with chillness and shivering, which were succeeded by a fever; but the patient was seized with the symptoms of a true *apoplexy*, tho' in reality,

(o) See Sect. I. Chap. V. Par. 41. Pag. 65.

(p) See Par. 38. Pag. 317. in the notes.

how nearly soever it resembled this disease, it was nothing more than the effect of the fever's seizing the head; as plainly appeared from other signs, as well as the colour of the urine, which in *intermittents* is mostly of a deep red (but not so red as in the *jaundice*) and likewise lets fall a *lateritious* sediment. Now tho' in this case all kinds of evacuations seem to be indicated, in order to make a revulsion of the humours from the head, as is generally practised in the genuine apoplexy, yet they are to be wholly refrained, because they are very prejudicial in the *intermittents*, whence this symptom originally proceeds, and consequently endanger life, as I have observed. On the contrary, therefore, we must wait till the fit goes off spontaneously, when the bark (in case it could not be given sooner) must be immediately exhibited, and carefully repeated in the intervals, till the patient be perfectly recovered.

35. It sometimes happens, tho' very rarely, that the aged, after having been long afflicted with this disease, and weakened by improper bleeding and purging, are seized with a *diabetes*, tho' the intermittent be perfectly cured. For their blood being by this means so impoverished, as to be utterly unable to assimilate the juices received into the mass, they pass off crude and undigested by the urinary passages, and, in consequence of the large quantity of urine which is voided every time they make water, the strength is gradually impaired, and the substance of the body in a manner washed away. The indications of cure in this case, and in every *diabetes*, however occasioned, are (1) to enrich and strengthen the blood, and (2) to stop the preternatural discharge by urine.

Aged persons sometimes seized with a *diabetes*, from ill management.

How cur'd

For instance, Take of Venice treacle, an ounce and half; conserve of orange peel, one ounce; diascordium, half an ounce; candied ginger and nutmeg, of each three drams: Gascoign's powder, a dram and half; of the outward bark of pomegranate, the root of Spanish angelica, red coral prepared, and the troches of Lemnian earth, each a dram; bole-armo- niac, two scruples; gum arabic, half a dram; syrup of dried roses, enough to make altogether into an electuary: of which let the patient take the quantity of a large nutmeg in the morning, at five in the afternoon.

The re- stringent electuary.

ternoon, and at bed-time, for the space of a month, drinking after each dose six spoonfuls of the following infusion.

The bitter
infusion.

Take of the roots of *elicampane*, *masterwort*, *angelica*, and *gentian*, of each half an ounce; the leaves of *Roman wormwood*, *white horehound*, the lesser *centaury*, and *calamint*, each one handful; *juniper berries*, an ounce; when these ingredients have been sliced and bruised, as they require, pour upon them five pints of canary, and let them stand together in a cold infusion, and strain it as it is used (q).

The patient's diet should be food of easy digestion, as veal, mutton, and the like: he must forbear garden herbs, and fruits of all kinds, and drink *Spanish wine* at meals.

(q) The *diabetes* here should seem to proceed from a poorness, joined probably with a viscosity, of the blood and humours, weak *viscera*, and a relaxation of the urinary passages. This being the case, it may perhaps give way to the medicines here prescribed. But if it should not, and the patient be strong enough, give a vomit of *Ipecacuanha*, and afterwards proceed to the use of such medicines as gradually attenuate and destroy the cohesion of the fluids, the chief of which kind are the preparations of *mercury*; and having continued these for some time, it will be proper to exhibit astringents, joined with deobstruents, as bitters, species and chalybeates. Dr *Harris*, in a case of this kind, which is related at the end of his treatise *de Morb. acut. infant.* commends the following infusion:

Take of *rhubarb*, half an ounce; *white and yellow sanders*, each a dram; the lesser *cardamom seeds*, half a dram; pour upon them a pint of canary, and let them stand together in a moderate heat, in a well-closed vessel. Let the patient take six spoonfuls of the strained liquor, three times a day.

The patient during the course of the cure should use liquids very sparingly, and avoid whatever may debilitate the solids, and breed viscous juices.

Lime-water is by many reputed a kind of specific in this distemper, and has often done great service. — Dr *Cheyne* says, that *chalkey waters*, as those of *Bristol*, and the *lime-stone water* by *Bath*, and such as no doubt may be found in many places where there is plenty of *lime-stone*; *hartshorn drink*; with *gum arabic*; *barley-water*, with *syrup of comfrey*, and all such soft, cooling, *mucilaginous drinks*, which give a balsam and union to the parts of the blood; a diet of the same kind, *milks* of all sorts, soft seeds, white young meats, no fermented liquors of any kind, and an electuary of *cinnabar*, *bark*, and *rhubarb*, with the *rob* of *elder*, being obstinately and rigorously persisted in, will at last sweeten, balmify, and unite the parts of the blood, in those not far advanced in life. — See cure of the diseases of the body and the mind, p. 174, 175.

36. That obstinate and lasting disease, the *fluor albus*, The *fluor albus* cur'd
 may be cured nearly by the same method and medicines as the *diabetes* just mentioned; for the curative indications in both are the same, how much soever these diseases may seem to differ. But in the cure of the *fluor albus* bleeding must be used once, and afterwards purging thrice with two scruples of the greater *pil. cochia*, before we proceed to strengthening medicines; but no oftener during the whole process, because all kinds of evacuations destroy the virtues of strengthening remedies (r). But this by the way.

37. And

(r) Bleeding, if the case requires it, should be performed in the beginning; then, if the stomach be foul, let a gentle vomit of *Ipecacuanha* be given; proceeding afterwards to the use of laxatives, especially. A warm bath, made of a decoction of marjoram, thyme, calamint, sage, rosemary, camomile flowers, bay and juniper berries, &c. will be of admirable service.

Hoffman recommends a course of mineral waters. An inveterate *fluor albus*, says this great man, proceeds from an acrimonious humour, generated by a too violent or frequent use of venery; or from a humour, introduced in the way of a communicated taint, which afterwards infects the glands of the *vagina*, so as not only to make them discharge their juice in plenty upon the adjacent parts, but the same juice, being also infected, eats and corrodes the fine fibres of the parts it passes over; and this occasions sharp darting pains, excoriations and ulcers; whence proceeds the matter of a *virulent flux*. From this account, which is taken from dissections, it clearly appears, that, in order to wash away, dilute, and weaken these infected juices, soften the hardened glands, strengthen the fibres that are fretted and corroded, and unite them again with the other untainted parts, a course of *mineral waters* is highly proper. And tho' it be true, that whilst the course is in hand, the flux will increase, yet when the course is over, there ensues a more certain and confirmed cure. But in order to this end, *balsamic remedies*, and a moderate decoction of the *drying woods*, are to be used in the drinking of them; by which means the cure may be surprizingly facilitated. *New exper. and observ. upon min. wat. translated by Dr SHAW, p. 126, 127.*

I know from reason and experience, says *Dr Cheyne*, there is nothing sufficient for a durable *extirpative* cure, but what will mend, attenuate, and sweeten the whole mass of the juices, and brace and strengthen the solids; as total *milk* and *vegetables*, or *white meat* diet, air, exercise, with the mild *mercurials* and sweeteners, and then gentle tighteners (steel and extract of the bark) with cold bathing, are alone sufficient to perfect such a cure in delicate constitutions in time. And this distemper generally afflicts the most lively, the most polite and amiable of the *sex*, and almost always make them *infertile*. *Cinnabar*, natural and fictitious, *testaceous* powders, extract of the bark, *Jadon* earth, and the like, made into powders or pills, with asses milk,

The bark
best alone.

37. And these are the observations I had to communicate, in a summary way, concerning the use of the *Peruvian bark*; for my design was not to consult the pomp of medicine. And in reality they who add any thing more to it than a vehicle which is necessary to carry it into the stomach, in my opinion, either do it ignorantly, or fraudulently, which every good man must needs detest, who, as a part of the community, would not be induced to commit such a fraud for his private advantage. As to what remains, if my cotemporaries had vouchsafed to consider what I published four years ago in my history of acute diseases, (which, it is highly probable, I was acquainted with before that time) concerning the method of exhibiting the bark in the intervals of the fit, and the succeeding repetition of it, when the disease is gone off, perhaps the lives of many persons had been saved; how much soever some men contemned my slender endeavours for the public good, and slighted the cautions there delivered in the following words, which briefly contain what I have here judged proper to enlarge upon, *viz.* (s).

How to
be given.

38. “ (1) The greatest caution must be had not to
“ give it too early, namely, before the disease be in some
“ measure spontaneously abated; unless the extreme
“ weakness of the patient requires it to be exhibited
“ sooner; for the administering it too soon may render
“ it ineffectual, and even fatal, if a sudden check should
“ be hereby given to the vigorous fermentation of the
“ blood in the act of despumation. (2) We must not
“ order purging, much less bleeding, to carry off a
“ part of the febrile matter, and render the bark more
“ effectual; for they both weaken the tone of the parts,
“ whence the disease returns so much the more speedi-
“ ly and certainly, after the virtue of the bark is spent.
“ It were better, in my opinion, to impregnate the

milk, a cool diet of the white meats, and the weaker *acidulæ* for drink only, are what I have found most successful. See the book last quoted, p. 184, 185.

Small doses of rhubarb, with the testaceous powders, taken twice or thrice a day for some time, along with a proper regimen and cold bathing, have given great relief in abundance of cases of this kind, and in some made a perfect cure. — And, in some, *Helvetius's* styptic powder made of *rock alum* and *dragon's blood*, has had surprizing good effects to my certain knowledge.

(s) See Sect. I. Chap. V. Par. 34. Pag. 61.

“ blood

“ blood with this medicine by degrees, and at distant
 “ intervals from the fit; rather than endeavour to stop
 “ it at once, just upon its coming; for by this means
 “ the bark has more time to produce its full effect in,
 “ and besides, the mischief is avoided that might hap-
 “ pen by putting a sudden and unseasonable stoppage
 “ to the immediately approaching fit. (3) The bark
 “ must be repeated at short intervals, that the virtue of
 “ the former dose may not be entirely gone off before
 “ another be given; and by repeating it frequently the
 “ disease will at length be perfectly cured. These rea-
 “ sons led me to prefer the following method of gi-
 “ ving it.

“ Take of the Peruvian bark, one ounce; syrup of ro-
 “ ses, two ounces; make an electuary thereof: take The febrifuge elec-
 “ the quantity of a large nutmeg, every morning and tuary.
 “ night, on the intermediate, or well days, till the
 “ whole be taken; and let it be repeated thrice, in-
 “ terposing a fortnight between each time (1).”

39. But

(1) I have often known (says Dr Langrish) fatal effects from exhibiting the *bark* too soon, or where there has only been a *remission* of the fever for a few hours*, without an abatement of the bad symptoms. And indeed, if we consider that the *viscera* are loaded with a heavy, pituitous, glutinous matter; that the capillary, sanguine, and lymphatic arteries are stuf with sily blood and lymph, and that neither of these impediments are perfectly removed when there is only a remission of the fever, it will evidently appear that the administration of the *bark* must necessarily be attended with the utmost danger: for to constrict the vessels, and to lessen the diameters of the secretory and excretory ducts, whilst a *lentor* is existing in the blood and lymph, can seldom be attended with success. Add to this, that if there be the least suspicion of an *inflammatory* state of the blood, the *bark* is direct poison.

In long continued *agues* or *intermittent fevers*, which have baffled the *bark*, and many other medicines, I have met with more advantages from small doses of *rhubarb* and *calomel*, than from any other medicines I ever tried.

The modern practice of joining *rhubarb* with the *bark* is an excellent method in gross and plethoric habits, or where there is the least suspicion of the *liver*, *spleen*, *meseraic vessels*, &c. being fouled or obstructed.

The *cold-bath*, where age, or no inward weakness forbid it, is exceeding proper, especially in the *summer season*, to recover the lost tone of the fibres, and to grind and comminute the viscid ill conditioned juices, and to prevent catching cold.

—*Modern theory and practice of physic*, p. 245, 246, 250, 252,

* See p. 309. par. 25.

Vernal tertians how cured without the bark.

39. But tho' the bark is the best medicine, hitherto discovered, for the cure of these diseases, yet I have known persons in the prime of life, and of a sanguine constitution, cured of vernal tertians by the following remedies. For instance; let the patient be bled in the arm on the intermediate day, and some hours afterwards, upon the same day, give an emetic of the infusion of *crocus metallorum*, regulating the time in such manner that its operation may be over before the fit comes; and as soon as it is gone off, let him begin with the following electuary.

The stomachic electuary.

Take of the extract of wormwood, gentian, and the lesser centaury, each two drams; mix them together; divide the whole into nine doses, of which let one be taken every fourth hour, drinking after each dose, of the bitter decoction without purgatives, and of white-wine, each three ounces (u).

In indigent persons.

40. There is another method of curing these tertians in persons of low circumstances, who are unable to bear the expence of a long course of medicines (w). As,

Take

255. In confirmation of which the learned reader may consult Huxham de aere et morb. epidem. p. 21 and 25.

Van Swieten greatly disapproves of putting a stop to the immediately approaching fit by the bark; because by checking the motion, which might otherwise remove the obstruction near the ultimate branches of the arteries, the patient is frequently destroyed, of which there are some examples. And hence it is that this medicine (which is of its own nature salutary) comes to be blamed; whereas in truth the fatal effect ought in all reason to be ascribed to the carelessness of the prescriber. Comment. in Boerb. aphorism. tom. II. p. 49.

(u) The following bolus has cured some, when every thing else had failed.

Take of the flowers of camomile in powder, half a dram; rock alum, five grains; of the simple syrup, enough to make them into a bolus, to be taken every three hours, in the intermission.

(w) Our honest and benevolent author has expressed himself here so unguardedly, as to be liable to misconstruction; and seemingly in contradiction to the well known, and universally adopted rule of practice of curing distempers *speedily, safely, and pleasantly*. For according to this maxim, if tertians could be as certainly cured by the simple, easy, cheap method here suggested, I should think a physician would be bound both in prudence and conscience to keep close to it, and not to put his patient to more expence, as well as the trouble of taking abundance of nauseous medicines to no more beneficial purpose, than for the sake of making a new experiment, gratifying some
whim

Take of Virginian snake-weed, in fine powder, a scruple; white wine, three ounces: mix them together. The sweating draught.
 Let the patient take it two hours before the fit comes, and being well covered with clothes, sweat three or four hours afterwards, and let it be repeated twice in the same manner.

41. In the following year, viz. 1679, these intermittents re-appeared at the beginning of July, and increasing every day, proved very violent and destructive in August. But having already treated of these at large, I shall only observe that they gave way to a new epidemic, which proceeded from the manifest qualities of the air in November. Intermittents appeared anew in 1679.

42. For at the beginning of this month a cough arose, which was more epidemic than any I had hitherto observed; for it seized nearly whole families at once. Some required little medicine, but in others the cough occasioned such violent motions of the lungs, that sometimes a vomiting and a vertigo ensued. On the first days of the disorder, the cough was almost dry, and the expectoration not considerable, but afterwards the matter in some measure increased. In short, from the smallness of the expectoration, the violence of the cough, and the duration of the coughing fits, it seemed greatly to resemble the convulsive or hooping cough of children; only it was not so severe. But it was attended with a A cough arose in November.

whim of his own, or perhaps for other worse considerations. If the sole end in view be the patient's recovery, the shortest, easiest, and least expensive means of procuring it, are doubtless the best; and the honest and humane physician will on no account ever quit it for another that has none of these reasons of preference, and many valuable advantages.—Besides, for what particular secret reason must the rich and noble be deprived of a benefit, a blessing I may call it which the poorest may enjoy? Their health to be sure is equally dear, and the pain and tediousness of sickness, and the nauseousness of medicines are as sensible evils to the greatest, as to the meanest of mankind, and the same their earnestness to be cured by a method that joins dispatch with pleasantness.

A medicine, therefore, instead of being set lightly by for its cheapness and simplicity, ought to be the more esteemed for these distinguishingly excellent qualities, especially if at the same time its virtues are equal to those of the most elaborate and dearest composition.—The easier it is to be procured, the more generally serviceable it will prove; and the more thankful we ought to be to that good providence, which has been graciously pleased to make the best blessings the most common.

fever

fever and its usual concomitants, in which particular it exceeded the convulsive cough, for I never knew that accompanied with those symptoms.

Whence it
affected
numbers.

43. Tho' coughs are common at the beginning of winter, yet every body wondered to find them so very frequent this year; which I conceive proceeded chiefly from this cause: the month of *October* having been wetter than usual, (for it seldom ceased raining) the blood, corresponding with the season, drank in abundance of crude, watery particles, by reason that perspiration was stopt upon the first coming of the cold, whence nature endeavoured to expel them, by means of a cough, thro' the branches of the pulmonary artery, or, as some will have it, thro' the glands of the wind-pipe.

Bleeding
and purg-
ing service
able herein

44. When there is occasion for medicine, I am sure the cure is best attempted by evacuation, namely by bleeding and purging; for the redundant serous particles cannot be so commodiously expelled by any other method, as by these two evacuations, which greatly empty the veins.

Pectorals
useless.

45. For as to *pectorals*, setting aside their pleasing the patient, I own I do not conceive how they can contribute to remove the cause of the cough; since their whole operation seems to consist, either in thickening the matter when it is too thin to be expectorated, or in attenuating it when, by reason of its viscosity, it comes up with difficulty. This I certainly know, that it is lost time to give such medicines, and that sometimes the blood is so impoverished by the retention of the serous particles which are prejudicial to nature, and further that the lungs, irritated by the violence of the cough, are so shaken by the great and almost continual motion, that a consumption is often occasioned thereby, from which the patient should be freed by hastening the cure.

Sudorifics
unsafe.

Nor are sudorifics much safer; for sometimes they cause a fever, and sometimes also the particles of the blood, which are easily inflamed, are so thrown upon the *pleura*, that a *pleurisy* is occasioned, which happened to great numbers in the course of this epidemic cough, and was very dangerous.

The cure
particula-
rized.

46. Accordingly I took away a moderate quantity of blood from the arm, and applied a sufficiently large and strong blister to the neck, in order to make a re-
vulsion

vulsion of part of the peccant matter (*x*). Afterwards I exhibited a lenient cathartic every day, made of an infusion of *sena* and *rhubarb*, with *manna*, and *solutive syrup of roses*, till the symptoms abated considerably, or a perfect recovery ensued: Or if draughts were disagreeable, I directed two scruples of the greater *pil. cochia*, to be taken every morning at five o'clock, sleeping upon them.

47. By this practice of venesection and repeated purges, and by this only, is conquered the convulsive or *hooping cough* in children; an obstinate disorder, which scarcely any other method will subdue. What the skill of others may effect in this case, I am not able to say; but know that, for my own part, I have tried remedies of almost every other kind, and tried them in vain. It must be observed, that only the milder cathartics are to be used, and these given only by spoonfuls, with due regard to the age of the patient. Such gentle and gradual evacuations effect the cure, as I imagine, by easing the lungs, which, though they are not found in this distemper to contain much of any serous humor, yet are forced into these violent fits of coughing, by fervid and spirituous vapours, thrown upon them, at certain times, by the mass of blood; and are therefore best relieved, by directing these vapours thro' the lower bowels, and breaking their force by a contrary direction (*y*). 48. But

The *hooping cough* cured by the same treatment.

(*x*) If the inflammation be considerable, it is much better to defer the application of a blister, till it is greatly abated by proper evacuations.

(*y*) As this disorder will not always yield to the method that is here laid down, we shall deliver the treatment thereof, as it hath been approved by a long course of experience, by the accurate *Huxham*.

If there be a *plethora*, says he, or the expectorated matter be streaked with blood, I always order bleeding, and especially if the fever demands it, as it often does, or the face turns black with coughing: and sometimes I repeat it, due regard being had to the strength and age of the child. Soon after I give a gentle emetic of *syrup of peach blossoms*, *oxymel of squils*, the *infusion*, or *decoction of Ipecacuanha*. For the cough, as *Walschmidt* observes, proceeds partly from the stomach; a fit of the *hooping cough* seldom ceasing before the tough, tickling phlegm be vomited up; and there is frequently so large a quantity of it, that it is necessary to repeat the emetic a third, or fourth time.

The belly is likewise to be loosened between whiles by proper purgatives, as *rhubarb*, *alcalifate mercury*, and *calomel*. By this means the mucous matters are carried off, so that they do

Bleeding
to precede
purging in
the begin-
ning of e-
pidemic
diseases.

48. But in the first stage of epidemic diseases, of whatsoever kind they be, great care must be had not to purge before bleeding (z). For the diseases which arise from an epidemic constitution of the air, are either actually fevers, or upon the least occasion degenerate into fevers; so that a fever may easily be caused by the disturbance raised in the blood and juices by the mildest purgative, and the heat succeeding it, which nature had otherwise expelled by the usual evacuations of the morbid matter; as, for instance, by a *catarrh*, or an epidemic cough, of which we now treat, or by a *diarrhœa*, when the epidemic fever has a tendency to not foul the chyle or the lacteal vessels, by getting into the blood; for great costiveness is universally prejudicial, occasioning a fever, or very considerably increasing the difficulty of breathing. Nor is there need only of evacuations, but such medicines also are to be exhibited, as strengthen the nerves and stomach, and attenuate the viscosity of the blood; and these intentions are admirably answered by *mercury* and the *bark*, joined with proper *stomachics*. The difficulty of breathing, and oppression of the breast often require a solution of *gum-ammoniac*, an expression of *wood lice*, or the like remedies; and sometimes, to abate the violence of the cough, LE MORT'S *asthmatic elixir*, or *diacodium* may be given, which, indeed, is the best and safest opiate in this disorder. But if the sharp humor falls plentifully upon the *larynx*, or the lungs, it is necessary to make a revulsion thereof, by applying a blister between the shoulders.

This distemper readily yields to these remedies, which by a different treatment frequently proves very obstinate, and can only be cured by time and changing air. The specifics extolled by women, as far as I have observed, are mere trifles, not excepting *cup-moss*, which, if serviceable, is only so on account of its astringent, and consequently strengthening virtue, somewhat resembling the nature of the *Peruvian bark*. For this noble *Indian* drug does not only attenuate gross humors, but strengthens the whole nervous system, and, operating in this manner by both these properties, cures intermittents. Moreover, the periodic return of this cough, which is often as certain as the fit of an intermittent, shews that this disease does not greatly differ from the nature of the convulsive or whooping cough; which seems still more probable upon this account, that both these disorders generally prevail in the same season, arise from the same cause, and are cured by the same remedies. HUXHAM *de aere et morb. epid.* p. 76, 77.

(z.) Our author has perhaps inculcated this caution in so many places of his works, because several physicians were of opinion that bleeding is prejudicial, unless the first passages be previously purged, apprehending that the emptied veins might attract the vitiated humors therefrom, as may be seen in *Sennertertus Forestus*, and some other medicinal writers. See p. 499. par. 9. of the *schedula monitoria*.

that

that discharge. The same may be said of any other constitution of the air, that disposes the body to some peculiar fever, which does not always actually happen, because nature expels the morbid matter from the blood by some suitable evacuation. This I always maintain, tho' the present practice is to exhibit cathartics before bleeding, or, which is still more dangerous, without bleeding at all.

49. For tho' it may be objected, that by bleeding before purging. the foul humours contained in the first passages are propelled into the empty veins, yet it is most certain, that the evacuation which precedes bleeding cannot make amends for the injury which the blood receives, from the tumult raised therein by the cathartic. And it must be owned, that a purge, taken immediately after bleeding, works much more gently, and heats and agitates the blood, less than it usually does when exhibited before bleeding (*a*); and I am apt to think that numbers, and of children especially, have perished for want of knowing this, or thro' a neglect of it.

The reasons for it.

50. And this I have learnt from a long course of experience, which is the surest guide in these cases; and unless practice be regulated thereby; it were better to discard the art. For the lives of men are but too much trifled with; on the one hand by empirics, who are ignorant of the history of diseases, and the method of cure, and only provided with receipts, and on the other hand by such idle pretenders, as rely wholly upon theory: whence both together destroy greater numbers than the diseases would if they were left to themselves.

Experience likewise in favour of it.

(*a*) This is true in fact; and to account for it, let it be remembered that all the excretions universally are regulated by the circulatory motion of the blood; the slowness or velocity whereof influences them in an eminent degree. For instance, if the circulation languishes thro' a fullness of blood, it is clear that this fluid will grow thick, and obstructions be generated, whence it will not flow in sufficient quantity to the emunctories, which upon this account will perform their functions in an irregular and sluggish manner. But if bleeding be used, which empties the vessels, the circulation is necessarily increased, whence the blood becomes more fluid, opens the obstructions in the excretory ducts, and, flowing more plentifully to the emunctories, enables and stimulates them to discharge their contents.

Practice
whereon
to be
founded.

51. But that method of practice, and that only, will relieve the patient, which deduces the indications of cure from the symptoms of diseases, and afterwards confirms them by experience; by which means the great *Hippocrates* gained such an extraordinary character. And if the art of medicine had been delivered by any person according to this method, tho' the cure of a disease or two might have been no secret to any of the common people, yet the whole art would then have required more prudent and skilful men than it now does, nor would it have lost any credit thereby. For as the operations of nature, upon the observation whereof true practice is founded, are much more subtle than those of any art, tho' established upon the most likely hypothesis; so, of course, the science of medicine, which nature teaches, will exceed an ordinary capacity, in a much greater degree than that which is taught by philosophy.

Exemplified in fevers.

52. We have a proof of this in fevers, which constitute two parts in three of the employment of physicians, and I appeal to any thinking person for the truth of what I assert. For is there an empiric, tho' ever so illiterate, who will acknowledge himself unable to cure a fever, if, according to the generally received opinion, only these two indications are to be regarded, (1) to expel the morbid matter by means of sudorifics, and (2) to relieve the symptoms which succeed evacuations of this kind? For he is very sure that *VENICE treacle*, *GASCOIGN's powder*, *plague-water*, and the like, given internally, along with a hot regimen, will force sweat; which is all he proposes in the cure of this disease, especially if he has chanced to hear of the term *malignity*. And as to relieving the symptoms, *diacodium* is in readiness to cause sleep, in case of watchings, and a *glyster*, when the patient is costive, and so of the rest. But he cannot of himself discover, or judge by his prescriptions, what kind of fever it is which he attempts to cure, if we only believe, as posterity perhaps will, that there are various sorts of fevers, most of which require their peculiar method of cure different from the rest; and, further, that the same individual fever, of whatever kind it be, requires one treatment at the beginning, and another somewhat different thro' all its stages, as long as it continues.

53. Now

53. Now if a person be ignorant of the natural history of the disease, which only can point out the true method of cure, how shall he be able to deduce the indications of cure from some less remarkable symptom, when he cannot judge whether it proceeds from his method of cure, or the disease itself? It would take up too much time, to enumerate the manifold and minute particulars, that must be attended to in the cure of this and other diseases, which being so numerous, and so momentous to the preservation of the lives of mankind, there will always be room for posterity to add to those observations, wherein the almost infinite variety of the operations of nature in the production of diseases, with the indications of cure thence derived, are delivered. Nor will the publishing such observations at all diminish, but rather add to the reputation of the art, which being rendered more difficult, only men of learning and sound judgment would be esteemed physicians. But these particulars by the way.

54. When the abovementioned *cough* was unskillfully treated, it caused a *fever*, resembling that which was so very epidemic, in the winter of 1675, the history whereof we have already delivered. But as this *fever* was only a concomitant and an effect of the epidemic *cough*, I cured it by the same method which I have delivered above for the cure of that *cough* (b), viz. by bleeding, applying an epispastic to the neck, and afterwards purging thrice. For tho' no time was fixt for the continuance of purging in a cough unattended with a fever; which, as I observed above, is to be continued till the symptoms be considerably abated, or the patient recovers; yet in the fever proceeding from the cough, purging for three days proved sufficient to conquer it; as I have frequently observed in the constitution under consideration.

55. But it is to be noted here, that tho' this *fever* was accompanied with violent *defluxions* upon the *lungs* at the beginning, yet in a month or two afterwards, when the collection of serum was gradually expelled from the blood, the fever manifestly appeared to be of the same kind, tho' it was unattended with a cough; the blood not having yet recovered its healthy state, so

(b) See Sect. V. Chap. V. Pag. 230. Par. 4.

that it did not require a different treatment from that which the cough accompanied.

Continued till the beginning of 1680.

56. This fever continued in the abovementioned manner till the beginning of 1680, when I wrote these observations; and as the year advanced, intermittents arose, which remained without any alteration, till the beginning of 1685, when I was preparing the second edition for the press. And tho' they are less epidemic in this city now than they were during the first four years, and likewise milder, yet they rage as violently in other places as they formerly did. For the general constitution still favours intermittents so much, that I can affirm that I have not hitherto met with a continued fever, unless it proceeded from wrong management, or was one of those *intercurrents*, which generally happen every year: so powerfully does this constitution tend to produce intermittents. And doubtless the force thereof must be weakened, before that which I call the *depuratory continued fever* can become epidemic. For in the intermittent species, nature seems to operate with too much haste and violence, running thro' the stages of the concoction and despumation of the morbid matter too soon: which happens otherwise in the depuratory fever, wherein the signs of the concoction of the febrile matter to be expelled, sometimes by sweat, or rather by a freer perspiration, do not appear before the *thirteenth* or *fourteenth* day.

The depuratory fevers of 1661, 1662, 1663, and 1664, only the remains of some intermittents.

57. These particulars being well considered, I doubt not that the epidemic *depuratory* fevers of the years 1661, 1662, 1663, and 1664, were only the remains of certain intermittents which had prevailed for a certain course of years before: but how long they prevailed I know not. For when the constitution which favoured intermittents became milder and declined, the fevers it afterwards generated were more humoural and earthy, whence the depuration of the blood went on by slow degrees; whereas those in the first years of this constitution were produced by more subtle principles, and, being intermittents, generally finished their course in a little time. Now, allowing this to be the case, it seems probable to me, that this depuratory fever will return as soon as the present constitution abates a little, and continue for a certain term of years, before the plague arises.

58. But

58. But throughout those years in which this fever shall prevail (how many soever they may be) intermittents may at times appear, and perhaps prove epidemic for a short space, namely when some manifest temperature of the air shall contribute thereto. Whether the bark will cure this fever as certainly as it usually does the present reigning intermittents, I cannot say: but if it be given in the plague, and the continued epidemics which will regularly follow this, we must expect the same effects from it, which we now find it produces in the *pleurisy*, the *peripneumony*, *quinsy*, and the like inflammatory fevers, in which disorders it not only does no service, but is manifestly pernicious. But however this be, epidemics will succeed each other hereafter, in the manner above delivered, provided nature does not deviate from the order it hath kept for these last twenty four years.—And these, Sir, are the principal observations I have made of the epidemic diseases of the foregoing years.

The bark where like ly to do mischief.

59. As to the cure of the *rheumatism*, which you likewise desire to be informed of, I have frequently regretted, as well as you, that it could not be accomplished without the loss of a large quantity of blood by repeated bleeding; whereby the strength is not only impaired for a time, but weak persons are usually more disposed to other diseases for some years; when the matter occasioning the rheumatism afterwards falls upon the lungs, the latent indisposition in the blood being put into action, by taking cold, or some other slight cause. These reasons induced me to search after some other method of curing this disease, than such repeated bleeding. And having well considered, that it seemed to proceed from an inflammation, as appears from the other symptoms, but especially from the colour of the blood, which exactly resembles that of pleuritics (c), I judged it might probably be as successfully cured, by a plain, cooling, and moderately nourishing diet, as by repeated bleeding; and the inconveniencies likewise attending that method avoided. Accordingly, I found that a diet of *whhey* used instead of bleeding had the desired effect.

Mischief of curing the rheumatism by copious bleeding.

Whhey advantageously used in its stead.

60. I was called last summer to Mr *Malthus*, an apothecary in my neighbourhood, who was afflicted with a

Blistered by a case.

(c) See Sect. VI. Chap. V. Pag. 272. Par. 4.

severe rheumatism, accompanied with the following symptoms. During the first two days he was attacked with a lameness in his hip, which was succeeded by a dull pain of the lungs, with a difficulty of breathing, which likewise went off in two days; then he was seized with a violent pain of the head, and soon after with a pain of the right hip, which was first attacked, and afterwards almost all the joints of the arms and legs were affected by turns, according to the nature of the disease. As he was of a weak and dry constitution, I was apprehensive, that by taking away much blood, his strength which was already declining, might be quite exhausted; especially, as the summer was so far advanced, that it was to be feared that winter would come, before he could recover his strength impaired by frequent bleeding; and therefore I ordered him to live upon whey only for four days, after which I allowed him white-bread, besides the whey, for his common food, namely once a day, instead of a dinner, till he recovered. Contented with this slender diet, he persisted in it eighteen days, only towards the latter end I permitted him to eat white-bread at supper also. He drank a gallon of whey every day, which afforded him sufficient nourishment. At the end of this term, when the symptoms were gone off, and he got abroad, I allowed him to eat flesh; as boiled chicken, and other food of easy digestion. But every third day he lived upon whey only, till at length he recovered, and by this method escaped the inconveniencies I mentioned above, which had been very troublesome ten years before, when frequently repeated bleeding was used by my order for his cure.

This method not to be contemned for its plainness.

61. If any one should lightly esteem this method, by reason of its inelegance and plainness, I must tell him, that only weak minds slight things because they are common and simple; and that I am ready to serve mankind, even at the expence of my reputation. And I must add, that, were it not for the prejudice of the vulgar, I am certain that this method might be suited to other diseases, which I shall not now enumerate. And in reality, it would be much more serviceable than the pompous garlands of medicines, with which such as are ready to expire are crowned, as if they were to be sacrificed like beasts (*d*).

62. But

(*d*) The admirable and approved virtues of *whey* appeared
10

62. But that the most common things may be so ordered by a skilful physician as to prove preventive of imminent death, will appear from the following observation; which, tho' it hath no relation to the disease under consideration, is not quite foreign to my purpose. About two months since a person in my neighbourhood desired me to visit his servant, who had taken a large quantity of *mercury sublimate*, being melancholy mad for love, as I afterwards heard. The poison had been swallowed near an hour when I came, and his mouth and lips were much swelled; he was extremely sick, had a burning pain in the stomach, and was almost killed with heat. I ordered him to drink three gallons of warm water as quick as possible, and to take a large so well deserving notice to Dr *Hoffman*, that he wrote a dissertation to recommend it to more general use. The antients, he observes, highly esteemed it, and frequently used it in those disorders, which proceed from an acrimony of the juices, as ulcers of the lungs, bladder and kidneys, the leprosy, various eruptions of the skin, ulcerations of the fleshy parts, and obstructions of the *viscera*, &c. They often prescribed it to be taken in a large quantity, and continued for a considerable time; but with this caution and difference, that when only the first passages required cleansing, it was to be drank more sparingly, and only for a few days, but more copiously and longer in deeply-rooted and oblitinate diseases.

Its excellency illustrated by a parallel instance, of a person who had swallowed poison.

The author recommends it in a *Hypercatbarfis*, whether occasioned by drastic purges, or some kinds of poison, the scurvy, all diseases proceeding from, or attended with an acrimony or foulness of the juices, hypochondriac and hysteric complaints, and in the beginning of a dysentery. He further tells us, that it is a safe and excellent laxative in all kinds of fevers, the small-pox, measles, and all feverish disorders, exhibited by itself, or with *manna*, *syrup of rhubarb*, *cream of tartar*, *sal polyebrestum*, and the like dissolved therein, as the case demands. He adapts the quantity to the circumstances, directing a pint to be taken at several times in the morning, by persons of a weak stomach, and a quart by those of a strong constitution; and sometimes repeating it in the afternoon, but in a less dose, and always limiting the time of the course to the duration and obstinacy of the disease.

He observes, that if milk be suffered to stand till it grows sour, or its whey be separated by the admixture of an acid, it is much injured thereby, loses its grateful sweetness, and rather contracts an acidity, which renders it disagreeable to the human body. To avoid these inconveniencies, therefore, he makes a whey in this manner: He evaporates a quantity of new milk, over a gentle fire, to dryness, keeping it constantly stirring, to prevent burning; then pouring as much water to the remainder, as there has been milk exhaled, he boils them together for a few minutes, and, lastly, strains off the liquor for use.

Dissert. de salub. ser. lact. virtut. sparsim.

draught

draught of the same after each time of vomiting; and as soon as it appeared, from the gripings, that the poison was going downwards, I likewise directed warm water alone, to be plentifully thrown up by way of glyster, in order to wash his bowels. The wretch complied, being now very desirous to live, and drank several pints of water more than I had directed. He told his friends that were by, that the water which first came up was very acrid, by reason of its being saturated with the poisonous salt; but that it was less acrid after every vomiting, till at length it became insipid, and the gripes that succeeded were remedied by injecting water alone, glysterwise. By this simple method the patient was recovered in a few hours, only the swelling of his lips did not immediately fall, and his mouth remained ulcerated; occasioned by the particles of the poison, which came up with the water by vomiting; but these symptoms yielded in four days to a milk-diet. I preferred water to oil, (which is generally used by the unskilful without success) and all other liquors, because being very thin, it seemed fitter to absorb the particles of the poisonous salt, than any other liquor that was thicker, or already impregnated with the particles of some other body.

The aged
in a rheu-
matism not
to be treat-
ed by a
milk-diet.

63. But to return to the *rheumatism*: how suitable soever a milk diet may be for young persons, and such as have lived temperately and by rule, it is notwithstanding unsafe to treat the aged in this manner, and such as have long accustomed themselves to too free an use of wine and other spirituous liquors; for it injures their stomachs, and by considerably chilling the blood, disposes to a dropsy. In this case therefore it is highly proper to use nearly the same method of cure, which I have already delivered (e): though since I wrote that, I have found by experience that it is better after the second, or at most the third bleeding, to purge often, till the symptoms go off entirely, than to trust to bleeding only. For purging being an assistant to bleeding in the cure of this disease, it will not be necessary to lose so much blood; and besides by this means there will be place left for opiates, which otherwise must be refrained, how severe soever the pain might prove, because they fix the disease, and it does not yield so easily to

(e) See Sect. VI. Chap. V. Pag. 270. Par. 1.

bleeding.

bleeding. But the purgatives should be of the milder kind, as *tamarinds*, *sena*, *rhubarb*, *manna*, and *solutive syrup of roses*; for such as are made of *scammony*, *jalap*, and the like, occasion great disturbance, and increase the pain. And every evening after the purge has done working, let an ounce of *diacodium* be given somewhat earlier than ordinary.

64. It must be noted here, that during the present constitution I have met with a certain symptom, at one time resembling the *rheumatism*, and at another a *ne-phritic pain*, in the violent pain in the loins; which, as it used to succeed intermittents, proceeded from a transmigration of the febrile matter to the muscular parts of the body. But this disorder did not require a different treatment from the intermittent which it accompanied; for it is increased, and life endangered, by frequent bleeding, and any other evacuation. — I judged it proper to drop this short hint concerning it, that no one might be misled thereby.

65. To conclude, these, worthy Sir, are the particulars which I have learnt from diligent observation, relating to the diseases which are the subject of your enquiries; and if they prove acceptable to you, or useful to others, I have gained my end: at least I enjoy the satisfaction of having done my duty, by complying with your request in the best manner I am able, who am ever

Your most devoted servant,

THO. SYDENHAM.

An

An EPISTLE of Dr HENRY PAMAN
to Dr SYDENHAM.

Worthy Sir,

THE healing art hath been greatly improved by your compleat history of *acute diseases*, founded upon diligent observation, and faithful experience; and written with an upright and honest view, and not to acquire riches or fame: for you are satisfied with having done your duty, and serving the present age to the best of your ability. I have hitherto concealed my desires, but it may be you have long imagined what I am going to request. He that commends your works, incites you to do something which may still add to your reputation. It is a most difficult task to treat of *acute diseases*, because they terminate so speedily, that, unless they be seasonably check'd, life is imminently endangered thereby; no medicines being afterwards powerful enough to prevent death. But you have enumerated their symptoms, and directed what is necessary to be done in every exigency. In effect, your essays on this subject are a finished performance, and could admit of no addition, had not you promised us a treatise of *chronic diseases*, which may be respited, and allow time for enquiry.

We have frequently conversed together concerning the *venereal* disease, of the infamous origin of which the *Europeans* sollicitously endeavour to clear themselves, and, to make its traces still more obscure, banish it to the remotest *Indies*. It is a fit punishment for the unbridled lust of the lascivious, and perhaps the cure is attended with greater difficulty, that the repentance may be proportioned to the crime. And he seems to have been touched with a sense of humanity and sin at the same time, who openly wished that this foul distemper might be but once cured.

But as the treatment of it often falls to the share of empirics, barbers, and such unskilful persons, they either fraudulently or ignorantly prolong it for such a length of time, to the great expence and greater affliction of the patient, that life becomes burthensome to him thro'
the

the violence and tediousness of the process, and the disease a less evil than the cure.

I intreat you, therefore, as a friend, to fulfil your promise, and publish your remarks on this disease first, as an earnest of the rest. Inform us truly by what method and medicines it may be cured : for it is enough for the patient to be punished by the Supreme Being, and not to be tormented more severely by his physician. Such a work would be well received by many persons ; and I should have some share of the praise that will thence accrue to you, on account of your publishing it at the request of,

S I R,

Your most obedient servant,

Lambeth-House,
Feb. 12, 1679-80.

H. PAMAN.

Dr SYDENHAM's Answer to HENRY PAMAN, M. D. Fellow of St John's College in Cambridge, publick Orator of that University; and Professor of Physic in Gresham College; containing the History and Treatment of the Venereal Disease.

Worthy Sir,

I. **T**HOUGH in civility to me you obligingly term my late treatise on *acute diseases*, a finished performance; yet so conscious am I of my own inability and its defects, that I reckon I have only pointed out the way, by which men of greater abilities may investigate the history and cure of these diseases. The author's modesty.

—Let me sharpen others, as the hone

Gives edge to razors, though itself has none (f).

2. And, in reality, so various, uncertain and subtle, is nature's procedure in the production of these diseases, that the oldest physician living is not able to describe their different symptoms, and proper methods of cure. Such a work would afford sufficient employment for any ten physicians succeeding each

(f) Francis's *Horace* in 1279. Vol. IV. Pag. 249.

other

other for as many ages, and those also men of eminent parts, indefatigable industry, and of very great practice, which may furnish them with numerous observations: so far am I from having attained; or imagining I ever shall attain the art of physic.

Difficult
to treat of
chronic dis-
eases.

3. As to those *chronic diseases*, the history whereof I promised you to write, my thoughts are so taken up with it, that if I know my own mind, I don't so much wish to have my life prolonged for any other reason, as that of being serviceable to mankind in this way. But daily experience convinces me how difficult and hazardous an undertaking this is, especially for me, whose abilities are unequal to the task; for among medicinal writers, excepting *Hippocrates*, and a very few others, we meet with little to assist us in our enquiries into so intricate a subject; the assistance and light which authors promise, being rather false than true lights, which tend to mislead, and not to direct the mind in its researches after the genuine procedure of nature. Most of their writings are founded upon *Hypotheses*, and the result of a luxuriant imagination; and the symptoms of diseases (wherein their true history consists) as described by them, appear to be deduced from the same source; and the method of cure, also, is derived from the same fictitious principles, and not from real facts, and thus becomes most destructive to mankind: so full of specious reasonings is every page of the writings of such superficial men, whilst the directions of nature are overlooked. But notwithstanding these obstacles, if God prolongs my life, and I can find leisure, I may perhaps put my abilities to the test. In the mean while, to convince you of my readiness to serve you, I present you with this short dissertation on the *venereal disease*, as a specimen of the whole; it being the only one I have yet prepared for the press.

The history and treatment of the venereal diseases

The cure
of the *ve-*
nereal dis-
ease, why
not to be
concealed.

4. But in the first place I must observe that I have met with several, who either with a good intent, in order to deter the incontinent from their vicious practices, by the apprehension of the succeeding punishment, or to acquire the character of chaste persons themselves, have not scrupled to assert that the cure of the *venereal disease* ought to be kept secret. But I cannot be of their opinion;

opinion ; because I conceive that there would be very little room left for charity, or doing good offices, unless the misfortunes which thoughtless persons bring upon themselves by their own fault, were to be alleviated with humanity and tenderness. It belongs to God to punish the offence, but it is our duty to assist the distressed, and relieve the diseased to the best of our power, and not to make too strict an enquiry into the cause of the evil, and irritate them by our censures. For this reason, therefore, I will deliver what I have observed and experienced in this disease ; not that I intend to make men's minds more vicious, but to cure their bodies, which is my province.

5. The *venereal disease* was first brought from the *West-Indies* into *Europe*, in the year 1493, for before that time the very name of it, as far as we can collect, was unknown amongst us ; whence this disease is generally reputed to be *indemic* in those parts of *America* where we first planted our colonies (g). But to me it rather seems to have taken its rise from some nation of the *Blacks* upon the borders of *Guinea* (h) ; for I have

Whence,
and at
what time
brought to
Europe.

(g) That the *venereal disease* was known neither to the *Greeks* nor *Romans*, should seem probable from the silence of all their physicians for at least two thousand years, and its not having been mentioned by the antient historians, poets, and other old writers of both nations. And as a further proof of this assertion, we may urge the authority of all the physicians, who lived at the time of the first eruption of this disease, who in general agree, that it was first brought into *Europe* towards the close of the fifteenth century ; that in symptoms it differed from every other distemper, that had ever been known or observed ; that the infection was propagated throughout *Europe* from the kingdom of *Naples*, where it first spread itself amongst the *French* and *Neapolitans* ; and lastly, that it was imported to *Naples* by the *Spanish* soldiers, who served under *Christopher Columbus*, from the *West Indies*. *ASTRUC of the venereal disease, the English translation, vol. I. book I. chap. 1.*

I cannot be of opinion, says *Dr Cheyne*, that either the *small* or the *great* pox was originally a distemper peculiar and appropriated to any certain time or climate, or *endemic* any where, no more than the *itch*, *leprosy*, or *plague*. A particular air, climate, original frame, manner of living, epidemical vices, and the like, may vary the symptoms, exasperate and increase the malignity and degrees of one distemper, called by such a name, more than another ; as particular species of plants differ by culture, sun, and soil ; but that they should alter the particular nature and species of a distemper, by which it is distinguished from all others, I think is unnatural, unphilosophical, and absurd.—*Method of cure in diseases of body and mind, p. 198.*

(h) This notion is directly contrary to matter of fact ; for it is certain that no *Blacks* were transported into *Hispaniola* before
the

Called the
yaws in
some parts
of *America*.

have been informed by several of our countrymen of great veracity, who lived in the *Caribbee* islands, that the slaves which are newly brought from *Guinea*, even before they land, and likewise those that live there, are afflicted with this disease, without having known an infected woman; so that it frequently seizes whole families, both men, women, and children. And, as far as I can learn, this disease, which so frequently attacks these miserable people, does not at all differ from that we call the *venereal disease*, with respect to the symptoms, *viz.* the pains, ulcers, &c. allowing for the diversity of climates; tho' it goes under a very different name, for they entitle it the *yaws* (*i*). Nor does their method of cure differ from ours, for in both cases a salivation raised by quicksilver carries off the disease; notwithstanding what we say here of the excellent virtue of *guaiacum* and *sarsaparilla* in those places where they grow, which is judged to be nearly lost in their long passage to us.

The *Spaniards* supposed to have got it by contagion.

6. It seems probable therefore to me, that the *Spaniards*, who first brought this disease into *Europe*, were infected with it by contagion communicated from the *Negroes* which they purchased in *Africa*, in some part whereof this disease may be *endemic*: for the barbarous custom of exchanging the natives with the *Europeans* for merchandize prevails in many places upon the borders of *Guinea*. However this be, this contagious distemper, spreading by degrees, so infected these parts, that if it had proceeded with the same rapidity where-with it began, it would in a few ages have destroyed mankind, or at least have made the world an hospital, and rendered its inhabitants entirely unfit for the discharge of every social duty. But like vegetables, being transplanted from its native place to a foreign climate,

Grows gentler daily in *Europe*.

the year 1503. But this disease was contracted by the *Spaniards* in *Hispaniola* in the year 1493, was carried into *Spain* the same year, or in the year following, and from thence into *Italy* in 1494, or 1495, where it infected the *French* and *Neapolitans*, and by them was soon after spread all over *Europe*. *ASTRUC of the ven. dis. the English translation, vol. I. book I. chap. XI.*

(*i*) This disease, says *Dr Turner*, in *Guinea* is called by the name of *yaws*, as I have heard from some sailors, as also from the captain of a ship, who have frequently made that voyage, and as I have reason to believe from an instance or two, I may very probably communicate hereafter. See his *Siphylis*, 4th edit. p. 6, 7.

it flourishes less in *Europe*, languishes daily, and its symptoms grow gradually milder. For at the first appearance thereof, when a person was seized with it, it quickly infected the whole mass of blood, occasioning violent pains of the head and limbs, and discovered itself by ulcers in various parts (*k*). But it is an hundred years since it first manifested itself by a kind of *virulent gonorrhœa*; which sort of appearance it yet retains, endeavouring to go off by this discharge; and it is attended with no other apparent symptom, except in some few persons, who are seized in the beginning with a small ulcer of the *puenda*, commonly called a *shanker*, the virulence whereof, not being expellable by a *gonorrhœa*, immediately infects the blood.

7. This disease is propagated; either (1) by generati- How pro-
on, whence it is communicated to the infant by one of paga.ed.
the infected parents; or (2) by touching some soft part,
by means whereof the virulence and inflammation are
communicated to the body, in the following manner;
as (1) by sucking: thus the child may infect the nurse
by the fine pores of the nipples of the breast; or the
nurse the child by its tender mouth. (2) Children may
gain the disease by lying in bed with infected persons (*l*).
For

(*k*) This will appear manifest by consulting *Astruc's* elaborate treatise on this disease; *vol. I. book I. chap. XII. XIII.*

(*l*) When the *venereal disease* first appeared in *Europe*, it was reputed *epidemic* and *contagious*; but it is now known by undubitable experience, and the unanimous consent of physicians, that it can neither be contracted by an error in diet, the fault of the air, the abuse of the non-naturals, or any spontaneous corruption of the humours, but solely by infection, and the communication of it from one that is diseased.

This communication is made (1) either by generation, the poison being transmitted by the parents, whilst the tender body of the embryo is formed: or (2) by contagion, the distemper being transmitted from a diseased person to a sound one. The first I much suspect, having never seen the *venereal disease* communicated from parents to their children; which has made me imagine that physicians have been somewhat too credulous in this affair, that if possible they might consult the reputation of their patients, by assigning, if not the real, at least a probable cause of their indisposition, and by that means acquit them from blame. The second is the most certain way of communication at least; and this may be spread by three ways. (1) At a distance by an infected air; (2) by a diseased subject; and (3) by an immediate contact. Now it appears both from reason and experience, that the *venereal disease* cannot be propagated by the first; and it does not seem to be plainly made out that it

For tho' grown persons, whose flesh grows firmer with age, can scarce be infected by this means without impure coition, yet the flesh of children being of a softer and finer texture easily admits the infection; which I have known got by lying in bed with infected parents.

(3) The touching of a soft part, especially in impure coition, which is the most usual way of gaining the disease (*m*); for the *penis* being turgid with spirits designed for generation, readily imbibes the infection, from a venereal ulcer, or pustule in the *vagina*; both which lying hid in the body, the woman may nevertheless seem to be sound; the venom being so detained by the moisture of these parts, as to infect the blood very slowly, or, which oftener happens, being diluted, or in part expelled, by the menstrual purgations.

What part
first attack-
ed thereby.

8. This infection, in my opinion, first attacks the fleshy substance of the *penis*, which it corrupts, first occasioning an inflammation, and afterwards, by degrees, an ulcer, from which the matter, that appears in a *gonorrhœa*, distils slowly into the *urethra*. I am inclined to believe this is the case, because I have seen such a virulent matter ouze from the porous substance of the

can be conveyed by the intervention of an infected subject; as by lying in the same sheets, wearing the same clothes, drinking out of the same cup, and wiping the mouth and lips with the same towel: as there is cause to suspect that the persons who have assigned such reasons for acquiring the distemper, have contracted it by other means, which out of shame they have dissembled. It is therefore mostly, if not solely communicated by the immediate contact of one diseased with some part of a sound person; as (1) by coition; (2) by the breast; (3) by kissing; (4) by lying with a person infected; and (5) by introducing the finger or hand into the places contaminated by a venereal ulcer or flux, if there happens to be a hang-nail on the finger, or some little cut, or erasement of the skin.

The two first of these ways of contagion are so well confirmed by many and certain experiments, that they cannot be called in question; and abundance more are infected by these than by the three last; which is evidently confirmed by experience, as we have not above one or two instances of persons infected by kissing, lying in the same bed, or handling the parts diseased, whereas there are above a thousand, who, in the same interval of time, have caught the distemper from the breast, and more especially from carnal copulation. *ASTRUC of the venereal disease, the English translation, vol. I. book II. chap. I.*

(*m*) It must be noted here, that if there is the least excoriation or wound, a crack in the lip, a hang-nail or the like, this disease may be propagated thereby.

glans, and not discharged from the *urethra*, and there has been no ulcer, either in the *prepuce* or *glans* (*n*), But at length penetrating deeper, it usually occasions an ill-conditioned ulcer of the *prostatæ*; which is frequently found in the bodies of such as perish by this disease (*o*).

9. This disease proceeds in the following manner. The patient, sooner or later, (according as the woman with whom he has lain was more or less infected, and according as his constitution renders him more or less disposed to receive the infection) is first seized with an uncommon pain in the parts of generation, and a kind of rotation (*p*) of the testicles; and afterwards, unless the patient be circumcised, a spot, resembling the measles in size and colour, seizes some part of the *glans*, soon after which, a fluid like *semen* flows gently from it (*q*); which differing every day therefrom, both in colour and consistence, does at length turn yellow, but not so deep as the yolk of an egg; and when this disease is more virulent and severe, becomes green, and is mixed also with an aqueous humour, copiously streaked

The various symptoms of the first state enumerated.

(*n*) That this is a mistake in our admirable author I readily grant with *Astruc*, who, however, has passed too severe a censure upon him for it, in the following words.

They are mistaken who think with *Sydenham* that the venereal poison in men first attacks the fleshy substance of the *penis*, and having brought on an inflammation, and an ulcerous disposition upon that part, by degrees insinuates itself into the *urethra*, and supplies it with that corrupt matter, that drops from it in a *gonorrhœa*; which is so far from truth, that its absurdity is now known to every barber surgeon.

This gentleman is of opinion that a *gonorrhœa* is seated in the feminary receptacles both in men and women; and from hence makes four different species thereof in both sexes. *ASTRUC of the venereal disease, the English translation, vol. I. book. III. chap. I. sect. II.*

Boerhaave, in his preface to the *Aphrodisiacus*, is of opinion, that the part which is first affected is the *membrana cellulosa*; and so are some eminent modern practitioners likewise.

(*o*) The author doubtless means upon dissection, without which the *prostatæ* do not come in view.

(*p*) What our author means by a *rotation* of the testicles, is difficult to conceive, as the word conveys no determinate idea: however, as this symptom, whatever it be, is no very manifest diagnostic, and the disease is sufficiently distinguished without it, it is of little moment to enter into any farther enquiry about it.

(*q*) The discharge or running, at first, somewhat resembles the whiteness of milk, or pure *pus*, and is much unlike the *semen*.

with blood (*r*). At length the pustule or spot terminates in an ulcer (*s*), at first resembling the *aphthæ* in the mouths of children, which spreads and eats deeper every day, and the lips grow callous and hard. But it must be observed, that this pustule is seldom attended with a *gonorrhœa* in those who have formerly had this disorder, or whose *glans* is bare; the hardness and firmness which this part acquires by being exposed to the air, and the frequent chafing of their linnen, rendering it less apt in such persons to receive the infection; and for this reason, those that are circumcised seldom have an ulcer of the *glans*, but only a *gonorrhœa* (*t*).

10. The *gonorrhœa*, or running, is soon succeeded by other symptoms; as (1) a great sense of pain upon every erection of the *penis*, as if it were violently squeezed with the hand; this happens chiefly in the night, when the patient begins to be warm in bed, and I esteem this painful constriction of the *penis* the distinguishing sign in this state of the disease. (2) The *penis* likewise bends, occasioned by the contraction of the *frænum*, which being naturally stretched in every erection, causes violent pain (*u*). There is likewise (3) a heat of urine, which is scarce perceived in voiding it, but immediately after the patient feels an extreme heat throughout the whole duct of the *urethra*, especially at its termination in the *glans* (*x*). And sometimes (4) the *urethra* being excoriated by the continual flux of acrimonious matter, nature too hasty in generating new flesh, substitutes a loose, spongy flesh, which growing every day larger and harder, forms *caruncles*, which obstruct the urinary passages, so as at length to hinder the exclusion of the urine; and these caruncles also emit a certain *ichor*, which proceeds from the little ulcers adherent thereto, and greatly hinders the cure, occasioning a tedious disorder more to be apprehended

(*r*) This is not true in general, and does not happen once perhaps in a thousand cases.

(*s*) It never does, unless a shanker affects the part where the measles spot first appears.

(*t*) The reverse is often true, *viz.* that they have *shankers* instead of a *gonorrhœa*.

(*u*) This and the former symptom are indiscriminately term'd, by some writers, a *cordee*, or *priapismus*.

(*x*) This is ordinarily entitled a *dysuria*.

than

than death itself (y). Moreover, (5) it often happens that the matter which should have been discharged by the *gonorrhœa* is thrown upon the *scrotum*, either by violent exercise, or the use of astringents, and causes a violent pain and inflammation, with a considerable swelling sometimes of one, and sometimes of both the testicles; the *gonorrhœa* in the mean time proceeding slowly, but the heat of urine remaining equally troublesome. These are the common symptoms of this disease in this state of it.

11. But when, by the continuance of the disease in Those of those parts, the virulence is communicated to, and by the second degrees corrupts the blood, or when the juices putrefy state. from the retention of the virulent matter in the body by the improper use of astringents, the *true pox* arises; in which (1) swellings, or buboes, often appear in the groin, and constitute the first degree thereof. (2) Then violent pains seize the head, and the limbs between the joints, as the shoulders, arms and legs, which attack by intervals, and keep no stated order, except that they generally come in the night as soon as the patient is warm in bed, and do not cease till towards morning. (3) Scabs also and scurf of a yellow colour, like a honey-comb, appear in several parts of the body, by which mark they may be distinguished from all others; and sometimes they are very broad, and resemble the leprosy, as it is described in the writings of physicians: and the more this scurf spreads, the easier the patient becomes (z). All the symptoms increase by degrees, and particularly the pain, which at length

(y) What Sydenham calls a *caruncle*, does not, in fact, take place till the running is almost, or totally stopped (though in such cases it is hardly possible to lay down any certain rule) and the reason of the thing as well as practice (*i. e.* the methods used to relieve it) shew that it is the *cicatrix* from the wound healed in the *urethra* which hinders the urine from coming freely away: — and therefore to relieve it a piece of cat gut made a little conical at the point, is introduced somewhat beyond the part where the obstruction is, and always kept in, unless when the patient has occasion to make water. This overcomes the constriction occasioned by the *cicatrix* in the *urethra*, and by a continued use, entirely cures.—Possibly a fungous flesh may sometimes arise from the wound in the *urethra*, which our author calls a *caruncle*, but this seldom happens.

(z) Those *venereal* eruptions which are small and most frequently situated upon the temples or head, when they scale off, leave a mark nearly of a chocolate colour behind them.

becomes so intolerable, that the patient cannot lie in bed, but is forced to walk about his chamber in a restless manner till morning. Moreover, (4) from the severity of the pain, hard nodes, called *exostoses*, grow upon different parts of the skull, and the bones of the legs and arms; which resemble the bony excrescences upon the legs of horses, usually termed the *spavin*: and (5) these bones, from the continual pain and inflammation, do at length grow carious, and putrefy (a). (6) *Phagedenic* ulcers likewise break out in different parts of the body, which generally begin first in the throat, and by degrees spread thro' the palate to the cartilage of the nose, which they soon consume; so that the nose for want of its support falls flat. (7) The ulcers and pain increasing every day, the patient, wasted away partly by the continued pain, and partly by the ulcers and corruption, leads a life far worse than any kind of death, thro' the stench, corruption and shame attending it, till, at length, his limbs rot away one after another, and the mangled, breathless carcase, being odious to the living, is consigned to the grave (b).

The author ignorant of the essence of this disease

12. As to what is termed the intrinsic and *essential* nature of this disease, I am as ignorant of it, except as it appears from the symptoms just enumerated, as of the essence of any plant or animal. But be this as it will, I am persuaded, that the humour occasioning this disease is of a very inflammatory nature, and ought

(a) The violence of the disease increasing, occasions a disorder of the *periosteum*, which has been falsely reckoned a disease of the bone itself, and called a node, or an *exostosis*. When this complaint is quite recent, and the humour of no considerable bigness, a salivation frequently cures it. — But if it be neglected, and suffered to proceed, the bone may become carious, and give much more trouble.

(b) This disease was not near so well known in our author's time as it is at this day; so that it need not be matter of great wonder, if he has failed in giving us so exact a description of it, as he has done of all the rest; which has laid me under the necessity of pointing out and supplying his deficiencies, as well as I was able.

And the method of treating it likewise has been so much improved within these few years, since our better acquaintance with the distemper, by its being unfortunately so common, that I could not dispense with myself from making several practical remarks occasionally, as I found it necessary, and endeavouring to correct some mistakes in his practice; which, I am certainly informed, some, misled by his deservedly great character, have followed too closely, to their prejudice.

to be evacuated by such means as experience shews to be most effectual; no immediate specific being yet discovered, whereby it may be cured without any preceding evacuation. For neither *mercury*, nor the *drying woods*, are to be accounted specifics, unless it can be proved by examples, that *mercury* has sometimes cured the *venereal disease* without a salivation, or a *decoction of the woods* without a sweat (c). Now having learnt by experience, that the common sudorifics have been as effectual here, as a decoction of the woods, so I doubt not, that if a remedy could be found, either in the vegetable or animal kingdom, of equal efficacy with *mercury* in raising a salivation, it would have the same effect in curing the *venereal disease* (d). But as this disease,

Caused by a very inflammatory humour

(c) The intended quantity of *mercury* to raise a salivation, having been rubbed in often, makes a perfect cure, without occasioning a spitting in any degree worth mentioning. For it is to be noted, that if the *mercury* operates by urine or sweat very plentifully, though little or no salivation be raised, it cures the distemper as perfectly.

(d) Dr *Turner*, having given a short historical account of *mercury*, has the following observation.

And thus far of this great and principal remedy, its use and abuse in this distemper; which, however, our countryman Dr *Sydenham* would not allow to be properly a *specific*, or in a strict sense *alexipharmic*, to the venereal poison; because, saith he, it produceth its effects no other ways than by purgation, salivation, or other manifest evacuation; and that if any other medicine would excite a *ptyalism*, or spitting, it would be also a specific thereunto. But I am apt to think the suffrage of the best practitioners, as to this particular, lies against him, as also matter of fact itself; for at this rate other purging medicines might subdue the *virus* of the disease as well as *mercury*, which is found quite otherwise: it being plain that by twice purging therewith, you shall gain more upon the malignity thereof, than by many more, without; and that the same is observed at some times to increase under other cathartics. See his *Siphylis*, 4th edit. p. 152, 153.

To this we may add what *Astruc* advances, which also invalidates our author's argument against *mercury* as a specific.— We have long since learnt from experience, says he, which is superior to any argument, that *mercury*, even tho' it brings on no salivation, shall notwithstanding produce the same effects in the blood, as though a plentiful salivation had been raised, provided that it enters the blood in a due quantity; and therefore that it shall attenuate the fluids, scour the vessels, restore the oscillatory motions of the solids, remove the obstructions, dispel the venereal poison, and absolutely extirpate the disease. See his treatise of the venereal disease, vol. 1. p. 227.

Desault's method, which consists in a continued course of

ease, when it is only a *gonorrhœa*, differs considerably from that which hath infected the whole mass of blood, and justly deserves to be intitled the *lues venerea*, so it requires a different kind of evacuation from that which is necessary in a confirmed *pox*.

The cure
of a viru-
lent go-
orrhœa.

13. With respect therefore to a *gonorrhœa*, of which we first treat, the whole of the cure, as far as we have yet experienced, turns upon purging medicines; by means whereof the peccant matter is either evacuated, or the natural juices of the body drained off, which would otherwise feed the disease. But tho' both reason and experience intimate that it may be cured by any cathartic, provided it be frequently repeated, and continued for a considerable time; yet such strong purgatives, as powerfully evacuate bilious, but especially watery humours, seem best for this purpose: and therefore I have sometimes recovered persons in low circumstances by *jalap root* only. But as the disease is attended with a manifest inflammation, and the purgatives to be exhibited in order to the cure are likewise hot, a cooling diet must be directed throughout the whole course.

By purging
Purging
pills.

14. For this reason I generally prescribe as follows:

Take of the greater pil. cochix, three drams; extract of rudius, one dram; rosin of jalap, and diagyridium, of each half a dram; opobalsamum, enough to make the whole into a mass, each dram whereof is to be made into six pills.

Four of these pills are to be taken every morning at four or five o'clock, (that the patient may sleep upon them) for twelve or fourteen days running, or longer, namely, till the heat of urine, and the yellow colour of the running be greatly abated, after which I esteem it sufficient to purge every other day for another fortnight; and then the pills are to be taken only twice a week, till the running ceases, which commonly continues several days afterwards. For tho' it be ordinarily affirmed, that after the heat of urine, and the yellow colour of the

*mercurial unctio*n, checking the salivation when it rises, by purgatives, and using a mercurial water for common drink, is also a proof that mercury will cure without salivating; of which he produces many instances. *Hoffman* also delivers a peculiar method of curing the *venereal disease* by mercury without raising a salivation. *Vid. Hoffm. Oper. tom. 3. p. 321.*

running

running are gone off, the *ichor* which appears, especially in the morning, upon the top of the *penis*, from which a drop or two may be squeezed with the finger, proceeds only from the weakness and laxity of the parts, occasioned by the long continuance of the contagious matter therein; yet the patient finds to his great prejudice, that this is the remains of the disease not thoroughly overcome; for tho' it be conquered in some measure, yet upon any slight occasion, as by excessive drinking, any violent exercise or the like, it begins again, and the *gonorrhœa* returns, that is, if the purging be discontinued before the disease is perfectly cured (e).

15. If

(e) With respect to purging, it should be observed that all rough and hot purgatives are to be forborn in weakly and broken constitutions, and especially where the disorder is attended with great heat and pain in making water; because they exasperate this painful symptom, by over-heating the patient. In this case therefore I direct a purging apozem to be prepared of *pearl barley*, *marshmallow roots*, *the leaves of mallows*, and *fennel seeds*, boiled in enough water, to a pint and half, dissolving a sufficient quantity of *manna*, and *GLAUBER'S salt* in the strained liquor: to be drank warm, about five or six ounces at a time, at such intervals that the whole may be taken in four or five hours.

On the intermediate days of purgation, I prescribe powders to be taken every four hours, made of *nitre*, *camphire*, and *cochineal*, in a solution of *gum arabick in barley water*, sweetened with fine sugar. And when by this means the heat and pain in making water abate, I exhibit mercurial purges, if there be occasion, and the habit be strong enough to bear them, but with great caution; being abundantly convinced that they sometimes do mischief, however discreetly used.

For, as *Astruc* rightly observes, by the use of *mercurials* the stomach is weakened, and the strength impaired, which is a thing of no small moment; but, what is of much greater, the acrimony of the blood is thereby so increased, that the ulcers that lay concealed in the seminary receptacles, from the bad quality of the blood being increased, become more malignant, and are much more difficult to heal. I am sure I have often seen, *continues he*, and I doubt not but several other physicians have seen the same, that *mercurials*, used even with caution, have brought on afresh a *dysuria* that was going off, and a running that was just finished, restoring it to its virulency, as its yellow and green colour sufficiently evidenced. See his treatise of the venereal disease, vol. 1. p. 278. Sect. 6.

Our author's method of purging for so long a time with such rough and heating cathartics, is a very improper one, often prolongs the running, and makes it of a bad quality, and must be exceeding prejudicial in any constitution. And what renders this violent method still more ineligible is, that the present practice of the most judicious, which is attended with
general

Strong
purgatives
sometimes
requisite.

15. If the *gonorrhœa* does not yield to this course of purging, it will be proper between whiles (especially in such as are not easily purged) to give some stronger purge instead of the pills; as the following potion, which having been taken only once, hath proved more effectual sometimes in stopping a *gonorrhœa*, than the frequent repetition of lenient cathartics.

A strong
purgings
draught.

Take of tamarinds, half an ounce; the leaves of senna, two drams; rhubarb, a dram and half; boil them in a sufficient quantity of water, to leave three ounces of the strained liquor; in which dissolve manna and solutive syrup of roses, of each an ounce; syrup of buckthorn, and electuary of the juice of roses, of each two drams; mix them together.

Or when the cure goes on slowly, exhibit eight grains of *turbith mineral*, only twice or thrice, at proper intervals, lest it occasion a spitting: and this is the most

general success, shews that purging for any thing like so long a time as our author prescribes, even with lenients, is needless and hurtful.

To the method of cure specified in the note, it may not be amiss to add that bleeding is very often necessary, and in case of considerable inflammation to be repeated; and that diluting copiously with small liquors, (such as whey, barley-water, almond-milk, &c.) for instance, at the rate of a gallon, or six quarts in a day, is highly serviceable; as this will keep the *urethra* moist and cool, and destroy the pungency of the acrid salts, and by this means prevent, or take off the heat of urine, which is often a very painful symptom in this disease.

If the patient cannot readily get down a purgative in a liquid form, an electuary may be made with *lenitive electuary*, *rhubarb*, *cream of tartar*, a little *balsam capivi*, and enough *solutive syrup of roses*; which will answer as well.

When all the inflammatory symptoms are gone, some rub in a little *mercurial ointment* for three or four nights successively, and then purge it off, and order the warm bath occasionally, if it can be conveniently used.

The cure may be concluded with pills, or an electuary made of *Chio turpentine*, *rhubarb*, &c. and washed down with *Bristol*, *Pyrmont*, or *Spaw water*.

By this treatment the patient is never debilitated and ruffled, or left with an obstinate gleet; which is almost always the consequence of strong purges, frequently repeated.

It is very seldom necessary to give *mercurials* internally in a simple *gonorrhœa*; but if we meet with patients that will be purged with them, the *mercurial pill* inserted by the college in their late dispensatory, is perhaps preferable to any thing of the kind.

powerful

powerful remedy to conquer an obstinate gonorrhœa (f).
Or the following pills may be given twice a week.

Take of pil. ex duobus, half a dram; mercurius dul- Strong
cis, one scruple; opobalsamum enough to make them purging
into four pills, to be taken betimes in the morning. pills.

16. But sometimes the patient hath such an aversion Glysters to
to repeated purging, that he cannot even endure the be injected
sight or smell of the medicines. And sometimes a pe- where in-
culiarity of constitution obtains, so that the strongest ternals
purgatives avail not, whence a sufficient evacuation of cannot be
the peccant matter cannot be made; and whilst we taken.
solicitously, but fruitlessly endeavour to cure the disease
by this means, it gains ground, and becomes a true *pox*
in such habits. In these cases, therefore, recourse is to
be had to glysters, which may answer both indications;
(1) by evacuating the humour, and (2) making a re-
vulsion from the part affected. Besides, this method
is sometimes more expeditious than the former, but in
my opinion it is not equally safe; for tho' the former
be more tedious, as requiring longer time, there is
notwithstanding less danger of leaving a part of the
contagious matter in the bowels, to cause fresh distur-
bance afterwards: but this inconvenience may easily be
prevented by exhibiting cathartics on the intermediate
days, in order to assist the glysters (g).

17. Where-

(f) There is not the least occasion for giving *Turbith mine-
ral* in a simple gonorrhœa; and if it be attended with some
symptoms, such as shankers, &c. that should seem to render it
necessary, much safer *mercurials* may be used to as good pur-
pose. It is remarkable, that our author here takes no notice
of its emetic quality, tho' in the quantity he orders it, it is al-
most certain to operate pretty strongly this way; and therefore
requires at least as copious dilution as other vomits.—However,
be the intention of giving it what it will, the *Ipecacuanha* has
been very frequently found to answer every way full as well,
and is unanimously allowed to be a much gentler and safer
emetic.

(g) This method of giving glysters seems to have been pecu-
liar to our author; no one besides himself, so far as I know, ha-
ving advised it; how it may answer I cannot say, having never
met with a constitution that would not bear purgatives of some
kind or other. But if this be the case, to what purpose is it to
have recourse to them on the intermediate days, in order to as-
sist the glysters; which, for want of operating, they cannot do,
but should rather seem to increase the evils, by occasioning
fruitless disturbance?

Dr Turner observes, that the cure by glysters, which were
contrived

In what manner to be given.

17. Wherefore I proceed in this manner : I give the abovementioned pills, or others of a like kind, two or three mornings successively, and then I order the following glyster to be injected twice a day, viz. in the morning, and at five in the afternoon, till the symptoms go off; except that once or twice a week I exhibit a cathartic, omitting the glyster that day.

The purgative glyster.

Take of the electuary of the juice of roses, six drams; Venice turpentine, dissolved in the yolk of an egg, half an ounce; dissolve them in a pint of barley water, and to the strained liquor add two ounces of the universal electuary: mix them together for a glyster.

Every evening at bed-time I give twenty five drops of opobalsamum, or balsam of Mecba, dropt upon a piece of fine sugar; this medicine being a kind of pure liquid turpentine, has the same virtues, and does great service in ulcers of the *pudenda*; but where this cannot be had, the quantity of a hazel-nut of Cyprus turpentine may be taken in the same manner instead of it.

The regimen to be observed during the cure.

18. Whatever method of cure be used, the patient must, during the process, refrain from salt and high-seasoned meats, and all others of difficult digestion; as beef, pork, fish, cheese, roots, herbs, and fruit; instead of which I substitute mutton, veal, rabbit, chicken, and other light food: and order him to eat very sparingly of these, that is, no more than is sufficient to support the strength. I forbid wine of all kinds, and all spirituous, or acescent liquors, prescribing for his common drink, milk boiled with thrice the quantity of water; only at dinner and supper he may be allowed a little small-beer. To abate the inflammation, and heat of urine, I direct some cooling emulsion, prepared in the following manner, to be drank on the intermediate days of purging.

contrived for those whose aversion to medicine is insuperable, is by throwing up half an ounce, or six drams of the *terebinth. ven. cum ovi vitel. solut.* once a day, and sometimes twice; if only once, it may be made more purgative with the *conf. hammech*, for the stronger sort, or the *elect. de suc. ros. diacatholicon lenitivum* for the weaker; but this method, says he, (unless the cure be promoted by giving some mercurial cathartic between whiles, and some balsamic also when the *virus* is taken off) is scarce to be confided in; nor have I known (unless very rarely) that it has answered the expectation. See his *Siphylis*, p. 79, 80. *ab edit.*

Take

Take of the seeds of melons and pompions, each half an ounce; the seeds of white poppies, two drams; eight blanch'd sweet almonds; bruise them together in a marble mortar, pouring upon them by degrees a pint and a half of barley-water; and, lastly, sweeten the strained liquor with a sufficient quantity of fine sugar.

A cooling emulsion.

19. In a very sanguine constitution, and when the disease is obstinate, after having spent a month or thereabouts in a course of purging, I generally advise eight or nine ounces of blood to be taken away from the arm; but I am against bleeding sooner, lest the disease should be more confirmed thereby (b). I do not depend much upon injections into the *urethra*, because they ordinarily do much more mischief than service, either by their pungent acrimony, or stypticity: however, towards the declension, a small quantity of *rose-water* may be injected.

Bleeding when to be used.

20. I do not know a better method than this of curing a *gonorrhœa*, especially in such as are easily purg'd; but in persons of a contrary disposition, tho' it never fails, yet it requires a long time to compleat the cure. In such persons therefore bleeding is to be repeated, and the purges must be made stronger, repeated oftener, and continued a longer time (i); or glysters must be injected as abovementioned; purging being the principal remedy here. For it may be truly affirmed, with respect to this disease at least, that whoever cleanses well

Purging to be persist-ed in longer in such as are hard to purge.

(b) Wherever bleeding is proper, it should seem best to begin with it, in order to guard against the inflammation and tension of the parts affected, and the painful heat of urine, which generally ensue; for experience shews that bleeding, so far from exasperating the disease, always renders the symptoms milder, and of course facilitates the cure.

(i) We learn from experience that there are constitutions which resist the operation of very strong purgatives, but readily yield to mild ones; the great irritation caused by the former, drawing the bowels of such persons into violent spasmodic contractions, which close up the *anus*, whilst the latter, by relaxing and gently stimulating at the same time, work in a kindly and effectual manner. This observation, therefore, has its usefulness in practice; and is abundantly confirmed by some colics, where gentle cathartics answer the end, and in others where the strongest, however necessary, avail not at all, nor indeed can be safely given, unless joined with an opiate, to abate the tension of the intestinal fibres, and by this means dispose the bowels to obey their operation.

makes

Mineral waters bad in this distemper.

makes the best cure; provided no *mineral waters* be used, which by their astringent and too healing virtue shut up the remains of the disease in the habit, which should have been carried off, and so render it more confirmed, as I have found by experience. Hence I have frequently observed swellings of the *scrotum* succeed from drinking them, at the beginning, or height of the disease, and more dangerous symptoms, as *caruncles*, when they were drunk towards the decline: and this I positively assert, notwithstanding *mineral waters* are ordinarily and frequently directed in the present practice in this case (*k*).

Astringents and decoctions of the woods hurtful.

21. I am also well aware how much some practitioners boast of curing this disease in a shorter time, by remedies which bear a great name; but I have found, by repeated observation, that the matter which should have been expelled, being detained in the body by astringents, has proved highly detrimental to the patient, by frequently returning into the blood, and at length causing the *pox* (*l*). Nor is the decoction of the woods more effectual, tho' it is safer; for under a pretence of exhibiting specifics, the whole body, but especially the parts affected, already over-heated, are still more inflamed; and sometimes, as I have already observed, I have known the *gonorrhœa* return, which vanished a little before (*m*).

Purging to be refrained in case of a *phymosis*.

22. But it must be observed, that if the nut be totally covered by the prepuce, and the lips of it so swelled, hard and callous from the inflammation, that it can by no means be slipt back, it is a fruitless endeavour to attempt the cure of the *gonorrhœa* by purging, tho' the strongest cathartics be given, and repeated every day with this view; unless means be used at the same time to reduce the part affected to its natural state, by removing the hardness and swelling, which continu-

(*k*) In some constitutions, however, such mineral waters as that of *Neville Holt* in particular, do frequently prove very beneficial in stopping an obstinate gleet.

(*l*) It seldom happens that a clap can be perfectly cured in less than two months, unless in a peculiar happy constitution; and sometimes the cure will take up three months: the veracity of those boasters, therefore, who pretend to cure it in much less time, may very reasonably be questioned.

(*m*) See above, Par. 14.

ally increase the gonorrhœa. For this purpose I direct The manner of curing it.
the following fomentation.

Take of the roots of marshmallows and white lillies, each An emollient fomentation.
an ounce and half; the leaves of mallows, mullein,
elder and benbane, and the flowers of camomile and
melilot, of each one handful; the seeds of flax and
fenugreek, each half an ounce; boil them together in
a sufficient quantity of water, for a fomentation, to
be applied to the part affected for half an hour, twice
or thrice a day.

After fomenting I order the part affected to be anointed,
with fresh linseed oil, and then apply the mucilage plaister
spread on leather, to the swelled lips of the prepuce.
But if the ulcer in the lips of the prepuce, or glans,
by its constitution and callosity, hinders the prepuce
from slipping back with ease; besides the fomentation
abovementioned, I prescribe the following liniment.

Take of the ointment basilicon, six drams; the oint- A digestive lini-
ment of tobacco, two drams; red precipitate (wash- ment.
ed in rose-water, and levigated) half a dram; mix
them together for a liniment; to be applied, upon lint,
to the ulcers, after using the fomentation above di-
rected (n).

23. But if, either from stopping the gonorrhœa too A swelling
soon, violent exercise, or any other cause, the scrotum of the scro-
be greatly swelled, (which is now the seat of the dif- tum, how
remedied.

(n) A mixture of red precipitate, with some proper ointment
or cerate. is a common and good dressing in venereal ulcers or
shankers.

If the inflammation here be considerable, bleeding should
be used, and repeated as there is occasion, and the body kept
open with emollient glysters, observing also a light diluting
diet; if it be attended with a fever, which is often the case.
Barley-water, mixt with honey of roses made warm, should be
frequently thrown up between the glans and the skin, with a
proper syringe, in order to wash away the sharp and noxious
humours, which lie concealed under the prepuce; and an
emollient cataplasm, like that described by our author, is to be
applied to the tumified part. But if the disorder does not yield
to this treatment, recourse is to be had to the operation prac-
tised in these cases, which consists in dividing the prepuce; and
is accurately described by Heister in his Institutions of surgery,
and Astruc in his treatise of the venereal disease, to which the
reader is referred for further information in this particular.
This latter recommends it as very necessary, that the penis in
this case be kept tied up to the belly.

ease)

ease) I apply the abovementioned fomentation twice a day to the part affected; and if the pain and swelling do not abate, I cover the part with the common cataplasm, prepared of *oxycrate* and *bean-meal*. While these external applications are used, I endeavour to promote the cure by cathartics and coolers, along with the diet abovementioned; and I scruple not to take away nine or ten ounces of blood from the arm of the same side with the testicle affected, at any time of the disease; if the largeness of the swelling, and the violence of the pain require it (o): and here we finish our observations on a *gonorrhœa*.

The venereal disease to be cured only by salivation.

24. But if the distemper be got to such a height, as to be justly entitled the *venereal disease*, or a *confirmed pox*, the procedure must be different from that above delivered; for the cure being more difficult, demands more powerful remedies; and in reality not an instance can be produced, so far as I know, where this disease hath been cured unless by a salivation with *mercury*; notwithstanding what has been hastily advanced by some learned, as well as illiterate persons, to the contrary (p). Since therefore a salivation answers every purpose here, I need do nothing more than set down

(o) Dr *Turner* intitles this an *hernia humoralis*. It is ordinarily occasioned by the sudden stoppage of a *gonorrhœa*, or a latent pox. Bleeding is to be used in order to the cure, and repeated in proportion to the demand; the diet should be sparing and thin, and the body kept soluble by cooling laxative glysters; and all stimulating, restringent, and balsamic medicines entirely forborn. The external applications prescribed by our author, will certainly do service, along with the method just laid down, remembering to support the part with a convenient truss.

Hoffman assures us that he hath sometimes known such tumors happily discussed, by only anointing the *scrotum* with a mercurial ointment; which could not be resolved by the most powerful remedies, or even by mercury given internally. See *Hoff. op. tom. III. p. 426*.

The inflammatory swelling of the testicle, (or more properly the *epididymis*) has been generally treated by vomits of *Turbith mineral*, and that very injudiciously; for till the swelling begins to go down any vomit is improper, and one of *Ipecacuanha* answers the purpose full as well as one of *Turbith mineral*, when a vomit is necessary: and indeed any emetic will produce the same effect, only this is usually chosen because it is the safest.

(p) See above (d) where the contrary seems to be fully proved.

what

what I have learnt from reason and observation concerning the raising and carrying it on.

25. And, first, I cannot even conjecture what some physicians mean by their frequent cautions about preparing the body duly by cathartics, digestive medicines, bathing, and the like; not to mention bleeding, which some esteem the principal thing. For if we speak frankly, the whole of the question is reducible to this, *viz.* that since a salivation must be procured by a poison (for we have not hitherto discovered a safe and innocent medicine productive of this effect, and the disease cannot be cured without it) whether it is better to make use of it, when the body is in full strength and spirits, and consequently more able to bear it, or after it has been debilitated by bleeding and low diet? Doubtless, every judicious person would think it better to do nothing at all, than to do mischief by such unseasonable attempts. Besides, it is manifest from experience, that a salivation is better borne by those who have not been debilitated by evacuations, or any other way, than by such as have been weakened before entering upon the course (q).

No necessity of preparing the body for it.

26. Omitting

(q) Preparatory to raising a salivation by *mercurial unctio*n, (and the same holds good of the internal method) Astruc rightly advises that due attention be had (1) to the present state of the patient, whether he be fit to bear *mercury*, (2) the choice of a proper season of the year for such a remedy; (3) the preparing the body in such manner, that the disorders of the patient's blood, if there are any, may be corrected, and the dangers which are to be feared from the use of *mercury* may be avoided; and lastly (4) to the preparation of the ointment to be employed.

With respect to the first, the unctio is to be refrained in persons afflicted with acute, or very dangerous chronic diseases, unless it be highly probable that the latter originally proceed from the pox. Neither is it to be used in those who are very weak, and exhausted, from whatever cause this arises, especially if a plentiful spitting be intended; nor in women during the time of their menstrual discharge. As to the seasons of the year, spring or autumn is most suitable, and winter better than summer; but if the symptoms are very urgent, the course is to be begun immediately, with proper caution. Previous to the unctio the patient, if plethoric, is first to be blooded, then to be purged gently, with cooling laxatives, and to use the warm bath twice a day for five, six, or eight days, as it shall seem convenient; and during the whole preparative course his diet should be sparing, moist and cooling, and wine, venery, and all violent exercises of body or mind refrained. And if the

How to be
conducted.

26. Omitting therefore this mischievous preparati-
on, as soon as I am called, I prescribe the following
ointment.

Take

pox be complicated with any other violent disorder, a more laborious method of preparation is necessary, adapted to the state of the patient. But there are some cases which will not even stay for the common preparatory method; to wit, if a carious bone in any of the limbs shall be fractured on a sudden, from a slight blow; if a deep *caries* in any of the bones shall penetrate to the *medulla*; if a hot, painful, inflammatory *exostosis* shall seem to tend to imposthumation. In these cases bleeding and purging, at most, being only premised, the *mercurial unctio*n must be instantly used, and in large quantities for the first or second time, if the symptoms shall seem to require a plentiful dose of *mercury*, to abate their fury. The violence of the disease being abated, we may then slacken our pace, and proceed more slowly, not only that the *mercury* by remaining in the blood may have the more force upon it, but also lest by too great haste some violent disorder should unhappily be brought on.

But if you except these few cases, *adds the author*, which indeed very rarely happen, I would advise you never to omit a diligent preparation of the patient, previous to the use of the *mercurial unctio*n, which I don't only apprehend to be useful, but absolutely necessary, not only to correct the disorders that are foreign to the pox, if any such lurk in the blood or the first passages, but also that the *mercury* may gain a more safe and easy admittance, to perform its good effects. Therefore, I think that *Sydenham*, who in other respects is a man of great authority, should by no means be listened to, when in his *Epistola responsoria de morbis venereis*, he asserts that these preparatory methods should always be omitted, as injurious to the patient, and that bleeding and a slender diet do nothing but mischief, by destroying the strength, and lowering the spirits. As if it was likely the patient's strength should be so much lowered by bleeding, and giving a purge or two in fifteen days, that he should be unable to undergo the exhibition of *mercury*; since on the contrary it is evident, by this method of preparing, (1) that the vitiated chyle of the first passages is carried off, (2) that the plethoræ of the vessels is lessened, (3) that the solid parts being relaxed, the way is made more easy for the *mercury* to perform its effects in the blood, for the attrition of the blood and humours. Lastly, for the excretion of the humours by the strainers of the mouth, intestines, skin and kidneys.

See Astruc of the venereal disease, Vol. 2. Book 4. Chap. 6. *sparsim*.

Hoffman commends warm bathing in the following terms. Warm bathing is likewise admirable for cleansing the mass of blood from the *venereal taint*; for there is not a more expeditious and appropriated way of discharging a matter, that, by its subtilty and acrimony, lodges in, and preys upon the solid parts, and thus causes violent symptoms in the nervous system, than by the glands of the skin, which are the best and
universal

Take of hogs lard, two ounces; quicksilver, an ounce; A mercurial ointment.
mix them together.

I add no sort of hot oil, or any thing else to it; because the ointment is made worse by all such additions as check its operation, and no better if they no way improve it; and perhaps those ingredients which are added under the title of *correctors*, do the same here (if they act at all) as experience shews such things ordinarily do, when they are joined with cathartics, *viz.* occasion gripings, and render their operation more difficult, from the ensuing struggle between the antidote and the purgative, all the virtue of which latter consists in being opposite to nature. I therefore order the patient to anoint his arms, thighs, and legs, with his own hand, with a third part of the abovementioned ointment, for three nights running, with care not to touch his arms-pits and groin; and the *abdomen* must be well defended from the ointment, by wrapping a piece of flannel round it, and fastening it behind (*r*). After the

universal outlets of the body; whence the *venereal disease* is seldom totally eradicated, without the use of warm bathing. All experienced physicians know of how little service, and yet how mischievous that method of curing the venereal disease is, which turns upon the use of *drying decoctions*, and *mercurial preparations*; whether intended to sweat or salivate; unless care be taken to discharge the malignant humours out of the body, particularly by the pores of the skin: we could produce numerous instances of cases, where, after *mercurial salivations*, and the use of *mercurial preparations*, in the way of diaphoretics and purgatives, assisted by sudorific decoctions, the symptoms have been abated for a season; but after a while unexpectedly returned, with greater violence, because the taint was not thoroughly discharged; but part remaining behind, gradually prevailed, and acquired fresh force. But by nearly the same course of mercurials and drying decoctions, together with a proper use of *warm bathing*, at due intervals, the cure has been completed, and the virulent matter entirely discharged from the very innermost seat of the nervous parts. See *new experiments, &c. upon mineral waters, translated by Dr Shaw, p. 184, 185.*

(*r*) The *mercurial ointment* might, I believe, be rubbed in safely in any part of the body, and nothing is more common than rubbing it into the groin. And it must be rubbed in more or fewer times, as is found necessary. Persons frequently require to be anointed six or seven times, and often more.—If the ointment does mischief, its bad effects may, perhaps, as naturally, be accounted for from the too great quantity of *mercury* used, or the patient's catching cold, as from the manner of applying it.

third unction the gums generally swell, and the salivation rises; but if it does not appear in three days after the last unction, eight grains of *turbith mineral* may be given in a little *conserve of roses*, and after every evacuation, either upwards, or downwards, let him take a draught of warm posset-drink (s). When the salivation begins, the physician must attend with great exactness to the degree thereof, lest by inconsiderately using too many medicines, it be raised so high as to endanger the life of the patient. When it is got to a proper height, in which state the spitting generally amounts to two quarts in the space of twenty four hours; or if the symptoms go off, tho' the spitting be not so much, which generally happens in four days after it comes to the height, it will be necessary to change his linnen and his sheets, for others that have been worn some time since they were washed; because those he lies in, being souled with the ointment, are apt to increase and keep up the salivation beyond the due time. But if the salivation abates before the symptoms vanish, it must be heightened by exhibiting a scruple of *mercurius dulcis*, at a time, occasionally.

A looseness
happen-
ing, how
checked.

27. Sometimes it happens, especially in such as are easily moved by purgatives, after the first or second unction, (*viz.* as soon as the mercury begins to affect the blood) that nature endeavours to throw it off by the intestines, whence not only mucous stools and gripings proceed, as in a dysentery, but the cure of the disease is hindered thereby, which is used to yield only to salivation. In this case, mercury must be entirely refrained, both externally and internally, till these symptoms are quite gone off; and the purging likewise, which generally happens before the salivation rises well, must be stopped by *liquid laudanum*, increasing the dose, and repeating it according to the urgency of the symptoms; or a dram and half of *diascordium* must be given between whiles, occasionally. Upon the stoppage of the looseness, the salivation, which scarce appeared before, usually goes on in a proper manner (t).

28. When

(s) There is no sort of necessity for giving *Turbith mineral* in this case; for more ointment, gradually applied, will answer much better.

(t) The giving astringents in the beginning of a salivation, to prevent a looseness, is very often prejudicial; and instead thereof,

28. When the patient appears to be recovering in all other respects, only his mouth continuing ulcerated, (which is the genuine effect of a salivation) the spitting, which abates now every day, must not be checked by purging, or any other method: for possibly after the pain is gone off, and the ulcers are dried up, a part of the morbid matter may remain in the habit, and occasion fresh disturbance, unless that moderate spitting be permitted which will cease as soon as the patient, after his recovery, hath been a few times in the air. For this reason I esteem it dangerous to carry off the remains of the salivation, which is just upon ceasing spontaneously, either by *purging*, or by drying it up with a *decoction of the woods*; which methods, tho' commonly used under pretence of expelling the mercury out of the body, or correcting its malignity, do, without doubt, occasion the frequent relapses that happen in those unfortunate persons, who, after all their pains and expence, earnestly long for health, and had certainly obtained it, if the salivation had been suffered to terminate spontaneously. It would therefore be more adviseable to promote it, by exhibiting *mercurius dulcis* once a week, after the patient is entirely recovered, and goes abroad, (which I have sometimes ordered to be done for some months) than to check it too soon (*u*).

thereof, gentle laxatives are both safe and occasionally necessary, and are so far from greatly interrupting the salivation, that it proceeds more kindly by the use of them; inasmuch as the patient, when thus treated, is freer from the severity of pain which sometimes attends the parts that are principally affected by a salivation.

(*u*) *Boerhaave* calls this an excellent rule of our author, and agrees with him in condemning *sudrific decoctions*, observing that a relapse need not be apprehended, if four, eight, ten or twelve grains of *mercurius dulcis* be exhibited once a week, according as the patient is found to be more or less difficultly moved. See *his prax. med. vol. v. p. 368.*

But where the salivation has been sufficiently copious, and continued a due time, lenitive purges should seem proper to carry off the remains of the mercury, at the close thereof; and daily experience shews that they are exhibited with all desirable safety and advantage.

As the appetite is generally very sharp after a salivation, great care should be had, that the patient commits no excess in point of eating, and his food should be light, and easy of digestion. Neither should he venture into the open air too hastily, especially if it is the winter season.

Purging
sometimes
necessary
at the
height of
the saliva-
tion.

29. But tho' I don't like purging at the declension of the salivation, for the abovementioned reasons, it may, nevertheless, be indispensably necessary at the height; that is, when it hath been so far raised, by wrong management, as to endanger life, in which case it is not only safe, but requisite to lower it by a purge, to such a degree as suits the strength of the patient, after which it is to be left to itself (*x*).

But not af-
ter it is
over.

30. If it be demanded, whether we should be satisfied with salivation only, without having recourse to cathartics, or any other medicines, which are usually administered after it is over; I reply, that besides what has been just mentioned, (which reason and experience confirm) I would fain know how it comes to be more necessary to purge after a salivation, than to salivate after purging; since purgatives, especially *scammony*, and such acrid cathartics, leave some remains of malignity behind them in the body, which notwithstanding we leave to nature, whereby at length they are overcome; namely, upon the patient's returning to his usual manner of living, exercise, and the free use of the air. Again, I should be glad to know why we try to expel the remains of the mercury by cathartics, whilst we not only neglect, but check the salivation, which is the genuine and almost the sole method whereby nature ordinarily does and should effect it? But such errors are to be ascribed to our limited capacity, which hinders our coming at the truth, that lies too far out of our reach, so that we take up with specious appearances instead of realities; and afterwards strengthen our groundless prejudices, to that degree by conversation, that at length we are for imposing our idle notions for demonstrations: which, in my opinion, is manifest in the instance under consideration.

Salivation
and purg-
ing not
easily
borne by
some sub-
jects.

31. But tho' most persons may be cured by the abovementioned method (*y*), it must, however, be carefully noted, that some are possessed of such an *idiosyncrasy*, or peculiarity of constitution, both in respect of salivation and purging, (such as are not easily moved by cathartics, being likewise hard to salivate) that it will

(*x*) In such a case bleeding is likewise often indispensably necessary, besides purging with lenients. And in exceedingly sharp and violent pain about the jaws, throat, and head, a blister to the back frequently gives unspeakable relief.

(*y*) See *Par.* 26. p. 354.

scarce

scarce cause an ulceration of the gums, much less raise a degree of sputation adequate to the disease. In these cases, therefore, the physician must, above all things, beware of obstinately and unseasonably endeavouring to raise a salivation, whilst nature resists, and will by no means bear such an evacuation; for want of understanding which matter rightly, some have destroyed abundance of persons. For in such constitutions the persisting obstinately in the use either of external or internal medicines for this purpose, instead of answering the end, occasions gripings and bloody stools; nature endeavouring to carry off the poison of the mercury this way; or else a pain of the stomach, sickness, cold sweats, and other terrifying symptoms ensue, so that the patient is brought to death's door, and perhaps killed thereby (z).

32. In

(z) Tho' it be a case that does not frequently happen, yet it is certain from undoubted experience, that mercury shall sometimes in a great measure lose its effect, tho' administered in due form, method and dose, and, frustrating the expectations both of doctor and patient, shall not produce any ulcers in the mouth, or a few only, and such as are cutaneous and slight; nor raise any salivation, or at least a very small one, and more like a spitting than a salivation. It is strange, indeed, that a medicine, which usually raises such violent storms, should sometimes lie so still and quiet in the body; but, if I am not much mistaken, it may be accounted for from one or other of the following causes:

(1) If the skin be thick, compact, and abound with too turgid vessels, so as not to be easily pervious to the entering mercury, and by that means admits it but in a very small quantity.

(2) If the blood be naturally dry, and, tho' attenuated by the mercury, supply but a small portion of lymph, and such as shall scarce suffice to keep up the salivation.

(3) If any other evacuation, for instance, by sweat, urine, stool, &c. be more copious than usual, and the lymph be diverted another way, where it meets with a freer and easier passage; in this case the salivation must be lessened, if not wholly suppressed.

(4) If the salival glands be either naturally or diseasedly dense, compact, hard, or scirrhus, and so give a difficult and slow passage to the salival lymph that is to flow thro' them.

(5) If thro' any natural or vicious constitution of the blood, the *saliva* flowing into the mouth be rendered so thick, viscous and tough, as to be void of acrimony, and incapable of eroding the muciferous vessels of the mouth.

(6) If the mouths of these vessels be not wide enough to imbibe the poison lurking in the *saliva*, or if they imbibe it in so small a quantity, that it shall have little or no effect upon the receptacles of the *mucus*.

How such
are to be
treated.

32. In such cases, therefore, tho' the physician may repeat the unction, and the *turbith mineral* again, when the salivation does not rise in four or five days after the last unction, (interposing some days between each unction) yet it greatly behoves him not to be so resolutely bent to raise a salivation, as to continue to force it in spite of nature (a). In my opinion therefore this method is to be followed: as soon as a sickness at stomach, or gripings succeed, medicines must be immediately refrained, till these symptoms are quite gone off; for by the frequent repetition of many powerful medicines to raise a flux, when nature opposes it, a dysentery will certainly follow the gripings, and the sickness at stomach terminate in death. Whereas, on the contrary, by going on gently, and taking time, exhibiting, for instance, a scruple of *mercurius dulcis* once or twice a week, alone, or with a dram of *diascordium*, in case of a tendency to a looseness, a cure will be obtained. For tho' the salivation does never rise to the height, yet an extraordinary sputation will be occasioned, accompanied with a fetid smell, which is the concomitant of a genuine salivation: whence it is manifest that the blood and juices have undergone that peculiar putrefaction, or alteration, whatever it be, which either causes, or proceeds from a salivation (b). By this method

(7) If there be little or no sympathy between the inward parts of the mouth and the salival glands. For thus, neither the irritation or exulceration of the mouth are, in any wise, likely to raise a salivation. And if any one should be surprized at us for admitting this variation in sympathies, I would have him consider that sympathies are subject to no rules, but are different in different persons, and that this is frequently the cause why some persons vomit with more or less difficulty from the use of an emetic, shed tears from smoke, sneeze from snuff, &c. See Astruc of the ven. dis. vol. 1. p. 225, 226.

(a) Instead of tormenting the patient with so rough and churlish a medicine as the *Turbith mineral*, when the salivation advances slowly, it would be much easier to him, and answer the end as well, to make use of a little more of the *mercurial ointment*.

A salivation has been raised by *calcined mercury*, commonly called *mercurius præcipitatus per se*, joined with an opiate, (which is generally thought to rarefy the blood) when every thing else has failed.

(b) If the looseness appears to be quite symptomatic, and does not relieve an oppression at the breast, or any bad symptom that affects the patient, it is prudent to stop it by the *electuary*

thod all the symptoms of the disease will be conquered, provided it be continued a proper time.

33. It must however be observed, that tho' a salivation excels every other remedy in curing a *confirmed pox*, yet it is not able to conquer a *gonorrhœa*, when joined therewith, for this disorder continues after the former is perfectly cured; so that from hence it is reasonable to conclude, that *mercury* is possessed of no specific virtue *immediately* curative of the *pox*, tho' perhaps it may be entitled a specific *mediately*, inasmuch as it cures the disease by the help of a salivation, which however is almost as absurd, as to term a lancet a specific for the pleurisy (c).

Salivation not curative of the *pox*, when it is joined with a *gonorrhœa*.

34. But to resume our subject; when the *pox* and a *gonorrhœa* meet in the same person, the cure of the latter is to be attempted either before or after the salivation, tho', in my opinion, it is effected with more safety and ease after the flux is over; for being joined with the *pox*, it yields with greater difficulty, but having been in some measure conquered by the preceding salivation, it is ordinarily cured with less trouble: purging, however, must absolutely be refrained as long as the salivation continues in the smallest degree. Upon this account, therefore, the cure is more safely conducted, by giving a dose of *turbith mineral*, once or twice a week, than by any other purgatives; as it

The method to be used in this case.

lectuary of scordium, or some equally safe astringent.—The gripings to which persons are subject in a salivation, are relieved by the warmest *aromatics*, even of the pepper kind, joined with *opiates*. But the *mercury* does now and then inflame the bowels, and so occasion pain, and it is of great importance to distinguish this remarkable symptom from the common gripings, which may be done by attending to the extraordinary heat, strength, and quickness of the pulse, &c. In this case bleeding is indispensably needful, and gentle *laxatives* highly useful.—The former must be repeated, if there is occasion, and a proper fomentation applied: *glysters* have likewise their use. And here it may not be amiss to add, that if any very considerable symptom rises in the course of a salivation, that must be first removed, before we rub in any more *mercury*.

The nerves are often affected during a salivation, and sometimes, tho' rarely, fatal convulsions ensue; in which case, *asa fetida*, and other *fetids*, joined with *volatiles*, and, if the case be very bad, *blisters* have a remarkable good effect.

(c) It is certainly a mistake to say a salivation will not cure a clap, for it does that most effectually, at least so far as to take off all the ill quality of the running, though it will not, indeed, entirely stop it.

will

will in some measure promote the flux, whilst the matter productive of the *gonorrhœa* will, in the mean time, be gradually carried off (d).

An *exostosis* how to be remedied.

35. It must likewise be noted, that if there be a tumor, usually termed an *exostosis*, upon some bone, which has been of so long standing as to render it carious, it will be in vain to attempt the cure of the disease by a salivation, or any other method, unless care be also had to remedy this accident. And therefore the bone must be laid bare by applying a *caustic* to it, and its *exfoliation* promoted, by medicines adapted to this end (e).

The ulceration of the mouth how mitigated.

36. If the *ulceration of the mouth*, which generally accompanies a salivation, be so exceeding painful, or

(d) Experience shews that a *gonorrhœa* frequently continues after the *venereal disease* has been carried off by a salivation

Boerhaave tells us that he has seen ulcers all over the body and the *penis* cured by salivation, whilst the *gonorrhœa* remained. See his *prax. med. vol. v. p. 360.*

Astruc takes notice of it, as a thing that often happens, and delivers the cure thereof with his usual accuracy and judgment, which being so full and circumstantial, we cannot do better than refer the reader thereto. See his *treatise of the ven. dis. vol. 2. book 4. chap. 10. sect. 1. p. 159.*

(e) *Astruc* is of opinion, that those *exostoses*, which remain after the course of *mercurial unctions*, are not to be meddled with, provided they give no pain.

But if an *exostosis*, says he, which has resisted the force of the unction, shall, either from its own nature, or from being tormented with the application of remedies, have an acute pain and shooting, with a manifest heat and redness of the skin, there is so great danger of an abscess being joined with the *caries* of the bone, or, what is worse, that it shall degenerate into a cancer, that there is no room for delay: therefore it is necessary to hasten to the operation, in which a crucial incision is to be made upon the skin, the four dependent corners should be taken off with the scissars, and the *periosteum* being scraped away, the *exostosis* is to be perforated with a trepan, in several places, and then to be entirely struck off with a saw or chissel, and the basis that it grew upon is to be brought to exfoliation with powder of myrrh, aloes, or euphorbium, with tinctures from extracts of the same medicines, or with the actual cautery, if the *caries* shall have penetrated so deep as to require it; lastly, the wound that is left, is to be cured in the same manner as ulcers which are joined with a *caries* of the subjacent bone. See *Astruc of the ven. dis. vol. 2. p. 189, 190.*

The common and successful practice in case of an *exostosis*, is to delay the salivation till the bone is exfoliated, and by this means the cure is more certainly effected, and the wound much sooner healed.

the mouth so excoriated as to bleed continually, it must be often gargarized with *rose water, milk and water*, or a decoction of *barley, marshmallow roots, and quince seeds*. This is the only symptom I know of that is worth notice in a salivation, when it is conducted in a proper manner; and in reality, if the pain and ulceration of the mouth could be any way prevented, this disease would be as easily cured as some others are, of which much less notice is taken (f).

37. As to the diet and other regimen, I conceive they ought to be the same in a salivation, at least till it declines, with those which are directed in a course of purging. For as when a person hath taken a purge, he need only keep himself warm in his room, and eat sparingly of easily digestible food; so I can see no reason why a person in a salivation should be kept constantly in bed, and forbid a slender diet, which may strengthen nature, struggling with the poison (g). For numbers have been destroyed, by their strength and spirits being totally exhausted, by sweating, purging, and needless abstinence, besides the mischief caused by the mercury: and frequently also, after the disease is gone off, the patient, not having sufficient spirits left to recover, sinks thro' debility; or if he escapes, it is with so

The regimen in a salivation.

(f) If the ulceration spreads and eats deep, detergent gargarisms should be used; and the ulcers are to be frequently touched with a mixture of *honey and spirit of salt or vitriol*, or the like; at the same time observing to lower the salivation, if it be risen too high.

(g) It would be extremely wrong, and greatly to the discredit of the practitioner, to keep a salivated patient in bed. In publick hospitals, it is true, it cannot well be avoided, for want of separate warm apartments; but in private practice it may and ought.

The common sustenance of patients in a salivation should be intirely liquid, and consist chiefly of broth, water and rice-gruel, milk-porridge, and the like: for the eating solid food, even if it could be done, would interrupt the salivation.

It may not be amiss to add here a remark which I could not find a properer place to insert. — And that is, that if a woman with child be infected with this disease to such a degree as to require a salivation, this circumstance makes it the more necessary; and the practice of the hospitals in *London* is to salivate the mother, even in the seventh month, that the infant in the womb may be cured likewise. *Turner*, in his *Siphylis* observes, that if a salivation be absolutely necessary to cure a woman with child, it may be undertaken in the sixth or seventh month of pregnancy, and gives an instance of its being performed with success about that time.

much

much difficulty and pain, that life is not worth the purchase.

Why some
are oblig'd
to go to
France to
be cured.

38. And here it is easy to refute the objection, why some that undergo so much, in that state of the disease which we have just mentioned, are obliged to go to *France* to be cured. The reason of this I take to be, that in such persons the constitution is broken, and their strength exhausted, so that our thick and moist air hinders their recovery; whereas the air of the *French* climate, which is more healthy and clear, is suited to restore their strength and spirits; and not that the physicians of that nation, however learned they may be, have a better method of curing this disease, than those of our own country (*b*). But to return to the regimen.

39. I am therefore of opinion, and experience confirms it, that besides water-gruel, panada, posset-drink, warm small-beer, &c. veal and chicken broth, and the like, may and ought to be allowed in a moderate quantity; and that as soon as the swelling of the gums is so much abated that the teeth can be closed, rabbits, pullets, lamb, and such light meats, may be permitted sparingly, and the patient likewise may sit by the fire, or lie in bed, as he likes best: for as the cure of this disease is to be effected by a salivation, and not by sweating, I see no reason for over-heating the patient unnecessarily.

Advantages of this
method.

40. This method is not only more expeditious, as not requiring so many days to be fruitlessly spent in preparing the body before salivation, nor such frequent purgation, nor the common decoctions, after the salivation is over; but I am well assured it is also easier and safer, and more preventive of a relapse; which any person, who has followed the other method, will experience upon making trial of this. At least it has succeeded with me in several patients, some whereof had already gone through more than one salivation, inef-

(*b*) Bathing certainly dilutes the blood by means of the *vasa inbalantia*. A physician of my acquaintance remembers to have seen thirty bathings successively ordered at *Montpellier* by the *French* physicians; and then slight frictions: — and that these only, in that climate, have actually cured the pox. — This method, however, I am persuaded, is not to be depended on in our climate, nor do I think it would be prudent to trust to it, though it has sometimes succeeded.

fectually,

fectually, having always relapsed from the causes above enumerated.

41. To conclude, I need not use many words, worthy Sir, to gain your esteem, who have long been convinced of my probity, and vouchsafed to advance my reputation. I will therefore say nothing more of this disease, for it never was or will be a pleasure to me, to perplex matters by a prolix and intricate stile. Be pleased then to accept this short performance, how inconsiderable soever it be, either in value or bulk; because I wrote it principally for the public good, and to testify my regard for you: which, great as it is, is yet less than you merit, both from me and all those who are no strangers to your great learning, affability, candour, and other laudable virtues. And indeed I do not flatter you, when I assure you, that since I was first honoured with your friendship, I have always set the highest value on it. For amongst the observations I have made during the short period of my life, this is well worth notice, and what I would likewise particularly recommend to my son, namely, that an acquaintance with men of eminent probity and virtue, hath always been of service to me; whereas, contrariwise, an intercourse with vicious men, (if such a friendship, as is not founded on virtue, does not rather deserve to be stiled a combination or conspiracy) tho' they never injured me by their words or looks, hath at last, by I know not what means, sometimes proved prejudicial to me or my affairs. Adieu, dear Sir, continue your friendship to

The author apologizes for himself.

Your most obedient servant,

THO. SYDENHAM.

An

An EPISTLE of Dr WILLIAM COLE
to Dr SYDENHAM.

Worthy Sir,

YOU will perhaps wonder what impertinent person it is that breaks in upon your serious studies ; but I hope you will pardon me, when I assure you, that it is chiefly to express my due acknowledgment, for the singular advantages I have received from your elaborate essays on *acute diseases*. For you have specified all the constitutions of years and of the air, of which you undertook to treat, with great accuracy, and in a quite new method, and have intimated such genuine and very obvious indications, for the cure of all the diseases happening therein, and illustrated the work with such excellent remarks, that we may reasonably presume, that so much sagacity and indefatigable application will eternally oblige both the physicians, and those who shall be committed to their care.

But tho' you have wrote so accurately of those things you designed to treat, that I can scarce forbear praising you for every particular, yet I chiefly thank you for your method of treating the *small-pox*, by which that, hitherto fatal disease, may be readily cured, provided it be not attended with malignity, or some unusual symptom, or obstructed by nurses ; a set of people, who frequently injure the health of mankind in a great degree, occasioning irregular symptoms by their hot regimen and medicines, and destroying abundance of persons before their time. You ought therefore, learned Sir, to be esteemed the preserver of mankind, and a sure guide to the sick in the extremest danger, conducting them to health, if they will but follow your directions.

For my part, tho' I somewhat distrusted my judgment, yet I have long been of opinion that the eruption of the pustules in the small-pox is not the *essential* disease, but the *crisis* of the fever ; and, accordingly, that, like other *crises*, it required a regimen, in which, by the unanimous consent of physicians, the whole business is to be left to nature, provided all things go on in a proper manner ; which generally happens in this
disease,

disease, unless the blood be immoderately agitated in the beginning. But, after having perused your excellent treatise, I found that those fears which had so long possessed me and others were groundless; and I ventured to treat my patients according to your method, (tho' sometimes not only the common people, but physicians condemned it) which proved so successful with those that complied with it, that, whatever others think, I shall always esteem myself happy in the possession of so valuable a treasure.

And when I was called to persons afflicted with the *confluent small-pox*, which, however, seldom happened, I scrupled not, upon your authority, to have recourse to opiates, though they seemed to be expiring, and have had great success. And, in reality, you seemed to have given us so compleat a treatise on this disease, that I should easily have imagined that the subject was exhausted, had I not lately been informed by my learned and intimate friend Mr *Kendrick*, who highly extols your civility, that you had some new observations on this distemper, which I cannot but think must needs be eminently useful in practice, because they are the fruits of *your* labour; and that, unless you communicate them to the publick, you will injure mankind and your own character likewise. And therefore, if the entreaty of a person unknown to you be of any weight, I beg you would publish them. But I must not stop here: for, having learnt from the same gentleman, that you have some curious observations on *hysteric diseases*, (which as they have exercised and fatigued the minds of the ablest physicians of all ages, so, alas! do they too often withstand the methods of cure delivered, and demonstrate how unsafe it is to trust to our reason in philosophical matters, except in such things as fall under the notice and testimony of the senses). You must give me leave to say that you will, doubtless, greatly oblige both the present age and posterity, by publishing your sentiments of them. At least I beg you will not be offended at the request which I, tho' unknown to you, have ventured to make, both for my own and the publick good, and that you will reckon amongst the number of those who are most devoted to you,

Worcester,
Nov. 17, 1681.

Your obedient servant,

WILLIAM COLE.

An EPISTLE from Dr THO. SYDENHAM to Dr WM COLE; treating of the Small-pox and hysteric Diseases.

Worthy Sir,

The author's modesty.

I. **W**ERE I to gratify self-love so far as to appropriate to myself the praises which I have no right to, it would be difficult for me not to betray some pride, upon being so highly commended by so great a man, who, tho' an utter stranger to me, is known to the learned world by his excellent writings. But your having honoured me thus far, tho' undeserving it, I ascribe to your civility; for the worthiest men are so formed by nature, that they are not only kind to such as err in trivial matters, but are always ready to give a proof of their candour, by commending those who come far short of perfection. And it is with gratitude I own that you have given me a remarkable instance of this, by approving my slender endeavours, which were intended to benefit mankind.

His reasons for treating of the hysteric passion.

2. You have here what you requested, namely, my further observations on the *small-pox*, and my new treatise of the *hysteric passion*. I begin with the former, that what should seem to have been wanting in it hitherto, may be supplied by such remarks as are the result of a longer experience. But I have undertaken to treat of *hysteric diseases*, because, except fevers, they happen most frequently, and likewise because I conceive my trivial observations may be of some advantage to practice. But I own I had still another reason for prosecuting these studies, besides the hope of serving the publick, which was to employ my leisure hours well, and spend the long winter evenings agreeably and usefully, being prevented by age now from going abroad to pick up companions. But whatever it was that first induced me, I do not find myself so fit for the undertaking, as I hoped to be; for that continued series of thoughts which requires a fixt attention, has for many years past been prejudicial to my gouty constitution, and is more so now old age approaches. Yet as I have received your obliging letter, I will, in answer to it, treat of these matters,

matters, though with more brevity than I at first designed.

3. Before I begin to treat of the *small-pox*, I must inform you, that the same sort of *intermitting fevers*, which, as we have said in another place (*i*), arose first in 1677, still prevails, *viz.* in 1681, the time of my writing this epistle. These fevers, throughout those years in which they reigned, like all epidemics, chiefly raged in those seasons that conspired most with their nature; but upon the approach of another season, yielded to such epidemics, as that season principally favoured. For instance, upon the coming in of winter, they always gave way to the *cough* and *peripneumonic fevers* thereon depending, and likewise to the *small-pox*; but upon the return of the spring they re-appeared. So in the year 1680, when these intermittents had prevailed universally during the autumn, the *small-pox* succeeded them in the winter, and spread much. But in 1681, the intermittents returned, tho' they did not spread so epidemically, their violence being abated, so that the *small-pox* appeared along with them in a few places. But at the beginning of summer the *small-pox* increased every day, and at length became epidemic, and killed abundance of persons.

First enumerates the then reigning disorders.

4. What reason seemed to intimate formerly, appeared manifest to me this year, 1681, namely, that it is wrong to confine the patient constantly in bed, before the total eruption of the pustules; for the spring and summer having been the driest seasons that any person living could remember, for the grass was burnt up in most places, the blood was by this means deprived of the greatest part of the humidity, which the air otherwise usually communicated to it; whence the then reigning *small-pox* was accompanied with a more considerable inflammation than ordinary, and the other symptoms thence arising were more violent (*k*). And

The patient why not to be kept in bed before the total eruption of the pustules.

(*i*) See the epistle to Dr Brady, Page 297.

(*k*) As the spring and summer were remarkably dry seasons, it is probable, they were likewise very hot; and then the unusual violence of the *small-pox*, and its symptoms, may be easily accounted for. For long continued heat and dryness are found to dry and crisp the fibres of the body, quicken the circulation, exhale the balsamic, thin, and aqueous parts of the fluids, and leave the remainder thick and acrimonious, whence it circulates with difficulty, and is much more disposed to obstructions and inflammations.

this I conceive was the cause that *purple spots* frequently preceded the total eruption of the pustules, and that the violent inflammation which expelled them, by dissolving the texture of the blood, suddenly destroyed the patient before the due expulsion of the morbid matter. And the disease proved so much the more destructive, because the eruptions so readily ran together, for the reason above intimated; for the intemperature of the air, now, did the same mischief spontaneously, which ignorant practitioners ordinarily occasion, by using a hot regimen and cardiacs, at the beginning of the distemper. For it is a remark well worth noting, and the result of the most accurate observation, that the *small pox* is least dangerous, when the eruptions are few, and most so, when they are numerous; and accordingly the fewer, or more numerous they are, the patient lives or dies. It must, however, be owned, that the *bloody urine* and *purple spots*, which so certainly prognosticate death, do sometimes happen, when there is little sign of the appearance of the *small-pox*, or only a very few eruptions coming out; but these, as they generally accompanied the *confluent small-pox*, so they sometimes came so early, as to destroy the patient before the total eruption of the pustules; as we observed above (1).

Why more or less endangered from the paucity or number of the eruptions.

5. I conceive it easy to account for the patient's being more or less endangered, in proportion to the paucity or number of the eruptions; for as every pustule is at first a *pblegmon*, tho' of a very small size, and soon imposthumates, so the secondary fever, which depends on the matter now making, is more or less violent at the height of the disease, according to the quantity of matter to be suppurated, which is usually completed in the mildest sort of the *confluent small-pox* on the *eleventh* day, in the middle sort on the *fourteenth*, and in the worst on the *seventeenth* day. For it must be observed, that as the confluent kind exceeds the distinct in point of danger, as much as it is itself exceeded by the plague, so likewise, the abovementioned three sorts of the *confluent small-pox*, are comparatively more dangerous the one than the other; which respects also the sex, or age of the patient, it being generally known, that persons in the prime of life are in greater danger in

(1) See Page 110. Par. 24, 25, 26.

this disease, than women or children under fourteen.—
But this by way of digression.

6. Nor will it seem strange that the danger should be so great from a large number of eruptions, if it be considered that a *phlegmon* (commonly called a *boil*) in the arm or any other part, will occasion a fever whilst it suppurates; the blood being inflamed by the purulent particles which are received into the mass from the veins, according to the laws of circulation, and thus giving rise to the fever. But the physician has more reason to foretel death, on one of the abovementioned days, when the face, at the beginning of the disease, appears totally covered with small eruptions, resembling the filings of steel, on account of the extreme violence of the succeeding fever, which necessarily rages in proportion to the quantity of matter thrown out of those innumerable imposthumes into the blood. And it is easy to foresee the destruction of the patient some days before it happens, tho' he thinks himself in a fair way, and is reputed to be so by the attendants, who are unacquainted with the nature and course of this disease.

7. Hence therefore, if the patient be not otherwise endangered than from the abundance of eruptions (setting aside the *bloody urine* and *purple spots* for the present) I consider well whence this proceeds, and, if it can be done with safety, use my best endeavours to repress them, which in reality is the principal thing to be effected, and the way to relieve the patient; every thing being very hazardous, when this kind of the disease is confirmed: so that if the patient should escape, it is not so much owing to my care, as to a plentiful bleeding at the nose, or some other accidental alteration happening in the course of the disease. Now such an extraordinary eruption of pustules, in my opinion, proceeds from the too sudden assimilation of the variolous matter; which seems chiefly to arise either from the over-hot and spirituous constitution of the patient, or from his having raised the fermentation too high, by confining himself to his bed too soon, taking hot cardiacs, or any sort of spirituous liquor; by which means the blood is disposed to receive the impressions of the disease, more intimately, and nature, being greatly disturbed by the vast quantity of the variolous matter,

Further explained.

The number of eruptions whence.

endeavours to change almost all the solids and fluids into pustules.

Most chiefly occasioned by confining the patient in bed before the 6th day.

8. The immoderate assimilation of the variolous matter, however, cannot be more effectually promoted, than by the patient's confining himself in bed unseasonably, namely, before the *sixth* day from the beginning of the illness, or the *fourth* inclusive from the eruption, when all the pustules are come out, and no more are expected. And tho' the moderate warmth of the bed, even after this time, does in some measure contribute to bring on the delirium, watching, and other symptoms, yet these are of such a nature, that they readily yield to proper remedies; whilst the imminent danger of death, that happens on the *eleventh* day, from the great abundance of the pustules, cannot be prevented or removed by medicine.

This therefore is to be carefully avoided.

9. The patient therefore is to be diligently admonished, by no means to keep his bed in the day-time, till towards the evening of the *sixth* day, whereby the eruptions will be fewer, and he will be greatly refreshed (*m*). But after this time, if the pustules be very numerous, he will scarce be able to leave his bed at all, on account of the pain thence arising, and a greater disposition to fainting upon sitting up; so that having frequently remarked this, it came into my mind that nature, in the customary course of the disease, first pointed out the time, when it is necessary to keep the patient always in bed.

The nature and progress of the disease to be investigated, in order to confirm this rule.

10. But in order to confirm this practical rule, which is of so great moment in lessening the impending danger from the *small-pox*, and in treating of it, at the same time, to take our history of it from the beginning, to the end, it will be proper to draw up a kind of plan of the whole disease, and make a strict search into its nature and progress; so that we may at length be enabled to ascertain the matter clearly, from the unerring reason of those who make use of the justest observations, and not from opinion founded on the slippery basis of fancy.

(*m*) A judicious practitioner tells us, that he never could find that the sick could bear being kept out of bed so long, unless the distemper was very mild, and the pustules few. See *Dr Hillary on the small-pox, 2d edit. p. 79.*

11. In the first place, therefore, its essence, so far as we can trace the essences of things, seems to consist in a peculiar inflammation of the blood; in which, nature is employed for some days, in the beginning, in preparing and moulding the inflamed particles, for their readier expulsion to the external parts; at which time, the blood being disturbed, a fever must needs be occasioned; for, the agitated particles, hurrying in a tumultuary manner thro' the vessels, necessarily cause a sickness at stomach, sharp pains in the head, and all the other symptoms preceding the expulsion, according as they are carried to this or that particular part. But when the eruption is over, the fleshy parts become the seat of the disease; and, as nature has no other method of expelling the peccant matter from the blood but by raising a fever, so, likewise, it does not free the fleshy parts from any extraneous body, but by imposthumation. Thus, if by accident a thorn, or the like sharp pointed body be lodged in the flesh, unless it be immediately extracted, the parts around soon imposthume. Hence it is, that when these particles are lodged in the flesh, they at first occasion very small *phlegmons*, wherein they lie concealed; which increasing every hour, and becoming more inflamed, at length come to suppuration; when a part of the matter must needs be licked up by the blood which returns by the veins, and if too large a quantity thereof be received into the mass, it is not only productive of a fever, which the debilitated patient is unable to bear, but also taints the whole mass. Nevertheless, this is not the principal evil; for, by the extreme heat of the fever during the last days of the illness, occasioned by the excessive violence of the matter, the salivation, which ought always to accompany the *confluent small-pox*, is stopt too soon, whence immediate death ensues. But if only a small quantity of the purulent matter be received into the blood, the violence of the secondary fever is easily checked by the increasing strength of nature, and the pustules drying away gradually, the patient soon recovers.

12. Now, allowing this to be the genuine and just history of this disease, it is manifest, that failure or success, on either hand, depend upon laying a good or bad foundation for the cure in the beginning. For if

Failure or success depend upon the procedure in the beginning.

these hot and spirituous particles be rendered more so by hot medicines, and especially by a constant confinement in bed, the assimilating virtue, which they already possess in too great a degree, must needs be heightened and increased. And, besides, the blood and other juices being hereby heated, yield more readily to the stronger impression of the particles, whence more eruptions appear than should, and life is, in consequence, unnecessarily endangered. Whereas the contrary, *viz.* the moderate cooling regimen, and the free use of the air, not only abate the force of the hot tumultuary particles, but likewise thicken and strengthen the juices; so that they are better enabled to resist the morbidic spirits, and support their violence; and hence no greater quantity of variolous matter is prepared, than is natural in this disease.

Disadvantages of too early confinement in bed.

13. But the only inconvenience arising from a too early confinement in bed, is not from the assimilation of too large a quantity of the morbidic matter, and the immoderate exaltation of the ferment of the disease; for the same cause frequently produces *bloody urine*, and *purple spots*, especially in summer, and in persons in the vigour of life. In my opinion both these symptoms proceed from the heat and commotion raised in the blood by hot and spirituous particles; by which it is agitated and considerably attenuated, so that it bursts the vessels, causing *bloody urine* when it forces its way thro' the kidneys, and *purple spots*, when it is strained thro' the extremities of the arteries terminating in the muscles and skin, which resemble so many mortifications in those parts wherein the extravasated blood is coagulated (*n*). And tho' both these symptoms might easily

(*n*) These terrible symptoms should seem to proceed from the acrimony, putrefaction and dissolution of the blood; and if any thing can give relief, it must be bleeding, and the use of acids and restringents; which is agreeable to our author's opinion. But such, alas! is the present imperfect state of medicine, as to afford little hopes of a cure in these calamitous circumstances, which for the most part terminate in the destruction of the patient.

In the *bloody small-pox*, if there is any room for physick, (says Dr Mead) those medicines bid fairest for success, which by their stypticity thicken the blood in some measure, and so check it, that it cannot break thro' even the smallest arteries. The best of this kind are the *Peruvian bark*, *alum*, and that
Spirie

easily have been prevented in the beginning (when they chiefly happen) by a cooling regimen and diet; yet when they actually appear, whoever attempts to cure them, by confining the patient in bed, and exhibiting cardiacs, will find himself as much in the wrong, as an old woman would be, who, to make her pot boil more gently, should make a larger fire underneath.

14. But, to acknowledge the truth upon this occasion, (tho' it should chance to displease the dogmatical, and such as are unacquainted with this matter, and therefore incompetent judges) it is not only unsafe to keep the patient always in bed the first days of the illness, but sometimes necessary to expose him to the open air, *viz.* if it be the summer season, and he not past the prime of life, or if he has been accustomed to spirituous liquors, and especially if the disease be owing to hard drinking. Now in these cases the too hasty eruption of the pustules cannot, in my judgment, be sufficiently checked by refraining from bed, and taking no cardiacs; for the blood, unassisted by these, is so overstocked with hot spirits, of a like kind with the disease, that a sort of violent explosion of it must necessarily happen; and moreover such a plenitude of humors will resolve into pustules, that the patient, being

The patient sometimes to be exposed to the open air, at the beginning of the disease.

spirit which is called *oil of vitriol*. Now these are to be used alternately in this manner: A dram of the *bark* may be given every sixth hour; and, three hours after, a proper quantity of *alum*. It will be a very powerful medicine, if thus compounded: melt three parts of *alum* on the fire, with one part of that inspissated juice, which is improperly named *dragon's blood*: when the mass is grown cold, reduce it to a powder; a scruple of which made into a *bolus* with *conserve of red roses*, will be a proper dose. The most convenient manner of giving the *oil of vitriol*, is in the *tincture of roses*; five or six spoonfuls whereof may be taken several times in the day: and besides, the patient's common drink may be acidulated with it; especially if purple or black spots appear interspersed among the pustules. And this medicine will be of great service, not only in the *bloody*, but in all the other sorts likewise, accompanied with these spots. This one thing more I will add, that I have experienced the use of *blisters* to be safe enough in this case, when a *delirium* requires their application. I have indeed seen some patients recover by this method, who had discharged large quantities of blood by the urinary canal at the time of the eruption of the pustules: but it is worthy of remark, that in all these the disease terminated in some considerable evil.—Stack's translation of the doctor's discourse on the *small-pox*, p. 51.

quite oppressed by the very copious matter returning into the blood, must inevitably perish at the close of the disease.

How destroyed at this time.

15. But the immoderate exaltation of the ferment, does frequently encrease the force of the variolous matter so much, that the patient sinks at the beginning of the disease, *viz.* when the morbid matter cannot disentangle itself and come out, by reason of the confused and irregular motion raised in the blood; but *bloody urine*, and *purple spots*, succeed instead thereof, and close the catastrophe (*o*). And these likewise often happen in the *measles* and *scarlet fever*, if the eruption be unseasonably and vigorously promoted.

Bleeding less serviceable now than the admission of fresh air.

16. Nor do I find that bleeding, (tho' it be used early) does so effectually check the overhasty assimilation of the variolous matter, as cooling the blood by the air received in by breathing, especially if the patient be put to bed immediately after the operation, and heated by hot cardiacs; the blood being by this means more disposed to receive the impressions of the adventitious heat, than it was before bleeding. And I solemnly affirm, that one of the worst cases I ever met with in the *confluent small-pox*, in which the patient died on the *eleventh* day, happened in a young woman soon after her recovery from a *rheumatism*, by the usual method of copious and repeated bleeding (*p*). And from this instance I

first

(*o*) When the blood is moved with too great velocity, no secretion can be regularly made, but much of what should be thrown out will remain in the mass; which will doubtless render it more acrimonious, and, consequently, encrease the fever, and occasion ill conditioned symptoms.

(*p*) The death of this patient, which, the author seems to insinuate, happened from the previous repeated bleeding, should, perhaps, rather be ascribed to the inflammatory and very tenacious state of the blood, which the rheumatism always leaves behind it.

That not a few physicians should scruple bleeding in an inflammatory fever in a plethoric and young subject, for fear the morbid matter should not come out, or be driven back, may well seem strange; since the violence of the fever, and the remarkable force wherewith the pustules in the confluent small-pox generally break out, put this matter out of all doubt; and this not only in the beginning of the disease, but even after the eruption, or in any other stage of it, if the patient be in danger from an inflammation of the lungs, the brain, or some other noble part. But tho' this evacuation is best used when the patient is first seized, yet if the fever continues high after

the

first learned, that bleeding did not contribute so much to keep the *small-pox* within its due limits, as I heretofore

the eruption, and violent symptoms require it, nothing forbids its being repeated as there shall be occasion: for the physician ought not to attend so much to the stages of a disease, and the idle notion of malignity, as to the symptoms that endanger the life of his patient. And, in reality, tho' the nature of a fever appears pretty plainly by the violence of it in the first days of the illness, yet after the eruption we can more certainly judge of the symptoms that will soon succeed, and of the termination of the distemper, than before; and therefore we ought to do our best in this stage of it (especially before suppuration is finished) to prevent those symptoms which, from the nature of the disease, we know will necessarily succeed in the course of it. Now this evacuation most effectually answers this purpose, and may not only be performed with safety, but repeated if the nature of the distemper requires it, and may and ought to be joined with other evacuations that promote the same end, as abundant experience hath long since taught me. Besides, who does not know that most women in the course of the distemper have their menses, and are the better for it, though this evacuation happens not at the usual period? And we have known others snatched from imminent death by a plentiful bleeding at the nose; and why when nature denies her assistance, art may not administer the same relief, cannot easily be accounted for.

Whether *Sydenham's* suspicion of the usefulness of this evacuation, founded on a person's recovering from a *rheumatism* by copious bleeding, who nevertheless had a very bad confluent *small-pox*, which has infused the like doubts into the minds of several others, is in reality of use or not, may be questioned. But if we attend to the usual state of the blood in the *rheumatism*, it will manifestly appear, that the *fluxing* of the approaching *small-pox* could no ways be prevented in such a case by the preceding bleeding; and that it was in vain to expect this sort of effect from it. For, bleeding in the *rheumatism*, in such proportion as the disease requires, is used to abate the tension of the vessels, moderate the heat of the fever, and to make room for dilutents and attenuants; but after the pains are gone off; the blood retains this inflammatory state in some degree for a considerable time, notwithstanding the preceding bleeding, which appears by an accurate survey of the blood after the departure of the fever, as well as from the frequent relapses into this distemper from the slightest cause; and this not only in those parts which were before affected, and in which the vessels might be supposed to be somewhat obstructed, but even in those which never before were subject to the pains. Such blood, therefore, abounding with a viscid inflammatory *stimulus*, in conjunction with the variolous matter, will attack the patient with double violence; and be much more apt to be detained in the ultimate vessels of the membranous parts, than natural blood, and raise pustules and inflammations there, whence the *small-pox* will necessarily be more severe.

fore imagined ; tho' I have frequently observed that repeated purging, before the blood is infected, generally renders the subsequent *small-pox* of a mild and distinct kind (q). 17. I

severe. Experience likewise confirms this ; for I never knew an instance where the blood was in this inflammatory state at the access of the disease, from whatever cause this disposition of it proceeded, but the *small-pox* would flux.

And indeed, if the excellent author had sufficiently considered the case he gives us of the lady ill of the *black small pox*, (p. 184. par. 11.) who on the third day after the eruption, and at an unusual time, was seized with a copious menstrual discharge, which lasted several days, it is hardly probable that he would have propagated such a suspicion in the rest of his writings.

To conclude therefore from this case, against the usefulness of bleeding in the *small-pox*, is wrong.

But they consult the health of their patients still less, who, induced by fearfulness rather than reason, dread this safe evacuation, and endeavour to supply the neglect of it, whilst the fever rages, to the great and certain danger of the sick, by blisters, cordials, and other stimulating medicines. But how much the violence of the fever, both in this and the future stages of the disease, is increased by such a method, or how widely the promoting an evacuation without a *stimulus* differs in its effects, from another which vellicates and tears the fibres, and gives a greater degree of acrimony to the humours already too acrid of themselves, I need bring no arguments to prove.

There are some subjects, however, (but fewer than those of a contrary habit) who, partly from the weakness of the nervous system, and partly from the slow circulation and viscosity of their juices, are really languid and weak : now such, and such only receive benefit in this stage of the disease, from blisters, cordials, and the like remedies, that furnish nature with strength equal to the illness ; but those that want neither spirits nor strength, experience the contrary, unless perhaps some very bad symptom necessarily requires the help of a *stimulus* for a time. *Commentar. Nosologic. p. 92. § seq.*

(q) Dr Hillary recommends a preventive method for the *small-pox*, which consists in taking several doses of proper *antiphlogistic purging physic*, at suitable distances from each other ; abstaining, on the days between purging, and during some time, from all heating, high seasoned meats, and hot spirituous liquors, using a thin, cooling, and diluting diet, drinking small, cooling, and gratefully acid liquors, and being very regular in the non-naturals. He observes, that if the person be of a very sanguine habit, bleeding will be requisite, or if the stomach is foul, a vomit, before the course of purging is begun.

He adds, by this regimen the crude humours of the body will be carried off, the fluids cooled, and rendered less liable to inflammation, or putrescency ; and, consequently, the succeeding disease and its symptoms will be more mild and favourable.

I have

17. I am well aware that several objections may be made to this opinion of ours, of permitting the patient to sit up in the day time; which may have great weight with the common people, and such as are little skilled in this disease, to whom the lower rank of physicians generally appeal as proper judges in the case, that they may support their ill-grounded reasoning by their authority: such reasonings being in reality better adapted to their capacities, than those that are the result of deliberate consideration in men of deeper penetration. Hence it follows, that as the bulk of mankind can only arrive at a superficial knowledge of things, and but few have ability to go to the bottom, so these pretenders to learning, under their patronage, easily get the better of the more intelligent, who are often exposed to calumny, but bear it patiently, because they have truth, and the most knowing men, tho' not the greatest numbers on their side.

Objections may be made to the patient's sitting up in the day-time.

18. It is objected, first, that sitting up in the first stage of the disease hinders the eruption of the pustules, and, of course, prolongs the sickness, and other symptoms proceeding therefrom; which indeed I own, and daily experience confirms it. But then it must be enquired, which of the two is most dangerous; (1) to give a little check to the variolous matter, and thus prolong the sickness occasioned by keeping back the eruption, or (2) to increase the ferment of the disease, and assimilate so large a quantity of variolous matter, as to endanger the life of the patient, by the *secondary fe-*

Some of them enumerated, and answered.

I have always observed, that the longer the method above recommended was continued, before the person was infected, the more mild and favourable the disease was rendered, the symptoms more moderate, and the pustules fewer. I never saw the *confluent small pox* follow the use of it, even when the persons were infected from such as had that sort of *pox*, and in some families to whom this disease had been frequently fatal. It is the chief, if not the sole advantage, which inoculation has above the common way of infection, that the body by this, or some such-like method, may be prepared for the attack; and those who don't approve of inoculation, may, as far as I have hitherto found by experience, reap all the advantages of inoculation, without being concerned in giving the disease: and if the person thus prepared should escape the infection, such gentle cathartics, and a temperate way of living, though continued for some time, when the *small-pox* reigns in the neighbourhood, will be far from injuring the constitution. See his *practical essay on the small pox*, p. 59. & seq.

ver on the *eleventh* day. I conceive it will appear, upon duly considering the matter, that very few have died merely because the *small-pox* did not come out sooner or later; unless perhaps a few of those, whose blood being inflamed by excessive heat and motion, circulated with such velocity, as not to allow sufficient time for the morbid matter to be expelled slowly; which is an argument in favour of my opinion.

19. For tho' we do nothing at all, we need not fear but the variolous matter (how much soever it shifts at the beginning of the illness, and oppresses the various parts it attacks, occasioning violent symptoms, as enormous vomiting, pain in different parts, &c.) will, nevertheless, at length be conquered by nature, and driven to the skin; especially as the costiveness of the patient, to this time, promises a certain, tho' a late eruption of the pustules afterwards. But, contrariwise, how many dangerous symptoms ensue whenever the eruption is unseasonably promoted! It would take up too much time to enumerate them all: and we have already mentioned the chief, which are, (1) the number of eruptions too much augmented, whereto the fever which comes at the close of the disease is proportionable, and accordingly more or less dangerous; (2) the *bloody urine*, and *purple spots*, both proceeding from the extravasated blood, which being too much attenuated and violently agitated by immoderate heat, runs off wherever it finds a passage; (3) as we have already remarked, a total stoppage of a proper eruption, occasioned by endeavouring too solicitously to promote it, which fails of answering the end.

20. If it be asked, why a proper separation of the variolous matter may not be as well promoted at the beginning of the disease, by refreshing the patient with the moderate warmth of the bed, as without it; I ask, by way of reply, whether experience does not testify, that a person in winter, whilst he lies in bed moderately covered, without a fire in the room, is much warmer, than when he sits up therein well clothed? And if the difference here be manifest enough, I next enquire, which of the methods is best adapted to check the immoderate motion of the variolous ferment? which, in my opinion, the physician ought chiefly to endeavour in the beginning,

beginning, and according as he deviates more or less from this end, he will assist, or injure his patient. (r).

21. But what has chiefly imposed upon the unattentive in this case, is their having observed a tendency in the patient to spontaneous sweats, which continually flowing whilst he keeps his bed, much more abated the feverish heats, than in those who did not sweat. Let us therefore first consider, why we solicitously endeavour to check the fever, since it is the usual instrument which nature chiefly uses in preparing and expelling all kinds of noxious matter which lurk in the blood. For it is evident, that whilst we carefully promote sweat, in order to lessen the fever, we by the same means force out a crude and indigested humour, like unripe fruit, and by these sweats afterwards cause a high fever; for by this method the serum of the blood, wherewith the blood itself, and those newly generated hot variolous

The fever why to be check'd in the beginning.

(r) It must be acknowledged, that it is oftener necessary to depress the fever, at the beginning of this disease, by bleeding, vomits, gentle lenitives, and proper cooling medicines and opiates, than to raise it; and this is the most effectual and safest method of promoting, instead of checking the eruption: for if the blood hurries on too quick, it will not allow sufficient time for the morbid matter to be expelled slowly, as it ought to be. See above, par. 18. towards the end. But before attempting any evacuation, let the state of the patient be maturely considered, because a *stimulus* is sometimes proper, and indispensably required. See p. 114. note (s).

A good writer on this disease observes, that as the regular and complete eruption and suppuration may be retarded, either by the over-violent motion of the blood, or, on the contrary, by its being too low, languid and weak, and that an error on either side may prove fatal; a strict regard must be all along had to the pulse, fever, and strength, of the patient, as well as the number of the pustules, and other symptoms, that they may be kept regular and moderate; and whenever they are not so, nature must be assisted, accordingly as these indicate and require; either by the use of *antiphlogistics* and *evacuations*, &c. as before directed, or by *gentle cardiacs*, and *alexipharmic medicines*, &c. But the latter are scarce ever required in the first state, and not near so often in the second, as the *antiphlogistics* are; besides, as Dr Sydenham observes, the over officious petticoat doctors prevent this, by giving sack and saffron, and their other good things, as they call them, whereby they too often either kill the patient, or at least render the cure very difficult: yet I am well assured, that some have been as directly murdered by the too liberal use of cold water, when the lownets of the fever, and oppression of nature, required a warmer regimen. See Dr Hillary's *pract. essay on the small-pox*, p. 79, 80.

particles are diluted, is driven out, and in the mean time these particles become more noxious and active, inasmuch as they are now freed from the serum, already exhausted by sweat. In short, the abatement of the fever and other symptoms by sweat, and the too hasty expulsion of the pustules hereby occasioned, have succeeded ill in abundance of persons, who have perished on the *eleventh* day from this cause.

Needful to refrain from bed at the beginning only, in the *confluent small-pox*.

The author's opinion founded on observation.

22. But it is to be observed, that I charge the patient to refrain from bed, only on supposition that the approaching *small-pox* is of the confluent kind: for as to the distinct sort, provided it can be certainly foreseen, the patient need not be kept always in bed, or enjoined to sit up, as the paucity of the eruptions prevents all danger either way.

23. However, I do not flatter myself so far, as to think, that what I have here delivered should be credited upon the authority of my slender judgment. And, in reality, I have ever so lightly esteemed the sentiments of the generality of mankind, that I may always reasonably suspect my own, when they clash with those of others; and I should be upon my guard in this case too, if my reasonings were not unanimously supported by practical observations. For, setting aside these, what appears reasonable to me or any other person, may, perhaps, be nothing more than the shadow of reason, that is, barely opinion. And the more I converse with men, the more I am convinced how dangerous it is, for persons, of the acutest understanding, to rack their brains in making a strict search into any art or science, unless matter of fact be constituted the judge and test of truth and falsity. For, to use *Cicero's* words, those who are so highly prepossessed of their abilities, deviate widely from truth, in mere speculative matters; whereas those who apply their minds only to such things as may be certainly determined by practice, tho' they should happen to mistake, would soon be set right, by bringing their notions to this touchstone. For instance, in the present case, cannot I certify myself by observation, what method is most productive of a favourable or severe kind of *small-pox*; and so form a judgment thereof, agreeable to the clearness of the fact? And were others to follow this way of reasoning, I should be satisfied with their conduct; but it is most unjust

unjust to accuse me of advancing falsities, without having once tried whether the method, so frequently mentioned above, of keeping the patient up in the day time, at the beginning of the illness, be advantageous or detrimental. Sure if this humour of defaming those who discovered truths, tho' contrary to generally received opinions, had formerly prevailed, no body would have attempted to make any discoveries that might be useful to mankind. But why should I give myself so much trouble, if a long course of experience did not manifest this method to be much safer than the common one. For I am not so weak and senseless as to seek for reputation, by exploding the opinions of those, whom I ought to flatter, if I courted applause. Neither is it to be supposed that I am so abandoned, as to use my authority to compass the destruction of late posterity after my decease, that so I might murder my fellow-creatures when I am dead, as well as during my life; which I tremble even to mention (s).

24. However it be, I have used this method in my own children, my nearest relations, and all those I have attended; and am conscious of no fault, unless it be the yielding sometimes to persons of a contrary opinion, to avoid the imputation of moroseness and obstinacy; for the truth of which I appeal to my intimate acquaintance. But this has not been my sole misfortune; for sometimes, also, notwithstanding that the attendants had contemned my advice and directions throughout the course of the disease, yet they have charged me with the death of the patient, tho' he perished by the heat which his friends and the nurse promoted, and I exclaimed against so loudly (t). Hence, I could not help

(s) The candour and integrity of our judicious author are so generally acknowledged, that he is frequently entitled the *candid*, the *honest Sydenham*: and whoever peruses his works with attention, will, I may venture to say, be abundantly convinced that he deserved these appellations; and, consequently, that he must be very far from being guilty of a crime which all good men have in abhorrence.

(t) This is too often the hard fate of the most experienced and honest physicians; allowances being seldom made for the perverseness, or irregularity of the patient, and the mismanagement of his friends and attendants. But how unjust, how ungenerous is it to charge them with the faults of others, and impute to them a misfortune which is wholly owing to a neglect of their wholesome advice and cautions! See the note (x) at p. 216, 217. towards the end.

thinking,

thinking, considering the insuperable prepossession of the multitude, that it would be better for me, if I were never to be called again to attend any person in this disease.

The method defended.

25. I own, indeed, that the *small-pox*, in what manner soever it be treated, will sometimes prove highly confluent; whence this disease is never void of danger, tho' the best method and medicines be used to prevent it. But it is enough for my purpose to assert, authorized by frequent experience, that whoever refrains from bed in the day time at the beginning of the disease, abstains entirely from flesh, and drinks only small liquors, is abundantly safer than he that confines himself immediately in bed, and takes hot cardiacs. For this method, as abovementioned (*u*), will generally prevent too large a crop of eruptions, and consequently the excessive effervescence of the secondary fever, which not only proves destructive of itself, but by thickening the *saliva* too soon, endangers the patient in the declension of the disease. Moreover, this method is preventive of the *purple spots* and *bloody urine*; both which symptoms seize at the beginning of the disease, and often before any sign of the eruption appears; which ordinarily happens, also, in the *measles*, *scarlet fever*, and other acute diseases proceeding from a violent inflammation. Not to mention the singular refreshment the patient finds from the admission of fresh air, every time he is taken out of his warm bed; which all those that I was suffered to treat in this manner, openly declared, and were very thankful for, having, as it were, received new life and spirits from breathing a cooler air (*x*).

The inclinations of the patient to be gratified.

26. Hence I have been induced to reflect, how much more frequently we are deceived, by the specious appearance of reason, than by sense, of which we have the surest knowledge; whence it should seem, that more regard is to be had to the appetites and longings of the patient, if they be not very irregular, or immediately destructive, than is due to the more precarious and fallacious rules of the healing art. To exemplify this: a person in a burning fever, earnestly desires to drink freely of some small liquor to refresh him; but

Exemplified.

(*u*) See above, *Par. 9. p. 372.*

(*x*) Great caution should be had in this respect in tender and delicate subjects, otherwise fatal effects may ensue.

the rules of art, which are built upon some hypothesis, having a different design in view, thwart the appetite of the patient. and, instead thereof, order a cordial. In the mean time the patient, not being suffered to drink small liquors, nauseates all kind of aliment; but art, especially that which is professed by the patient's friends and attendants, earnestly requires he should eat. Another, after a long illness from the same cause, begs hard for some uncommon, and, perhaps, pernicious eatable; and here again, impertinent art thwarts the inclination of the patient, and threatens him with death if he disobeys: unless, perhaps, the artist thoroughly understands this excellent aphorism of the sagacious Hippocrates, viz. *Such food as is most grateful, though not so wholesome, is to be preferred to that which is better, but disagreeable (y).*

27. Now, he that is but little versed in the practice of physic, will readily grant, after due consideration, that in all these deviations of nature, several patients have immediately mended, upon their non-compliance with the directions of their physician, and indulging their own inclinations. Nor will this seem strange, if it be considered, that the all-wise creator has formed the whole with such exquisite order, that as all the evils of nature eminently conspire to compleat the harmony of the whole work; so every being is endowed with a divine direction or instinct, which is, in a manner, interwoven with its proper essence, whereby it removes those ills from itself. And this is manifest, in the natural termination of many *acute diseases* (which

Proved to answer the best ends.

(y) That this is true, most physicians can testify from experience. We have known several persons recover from very desperate diseases, after having gratified their appetites, whether by stealth, or the indulgence of the physician, how seemingly irregular soever they were. In effect, however noxious the quality of the thing coveted appears to be, the patient can generally err only in taking too much of it. To account for the advantages that accrue from the gratification of these irregular appetites, contrary to the strongest presumptions, in a satisfactory manner, I leave to those who delight in such curious and subtle speculations. Our author in the following paragraph seems to resolve these appetites into a kind of providential instinct, implanted in mankind for their preservation; in which he is to be admired for his religion, to which he every where makes his philosophy subservient. See p. 215. Par. 20, 21. and the note (z) at p. 216, 217. towards the end.

B b

generally

generally proceed from God, as *chronic* ones do from ourselves) and likewise in the propensions which accompany them, and make way to free the patient from that danger, which art, when exercised by the ignorant, usually occasions. And hence, indeed, the safety of mankind was provided for, who had otherwise been in a melancholy condition, at a time when the healing art was totally confined within the narrow bounds of *Greece*, which bears much the same proportion to the rest of the world, as a little village does to *Great Britain*. And, even at present, what would be the fate of the inhabitants of so many other vast countries, since all *Asia*, *Africa*, and *America* (except a few thinly peopled colonies lately established) and likewise a great part of *Europe*, remain utterly destitute of the art of physic (z)? But as an elegant comic writes, to distinguish such as were famous for reason, and the practice of virtue, from the herd of those that disgrace the human form by a brutal life, says, *they are men, if they behave like men*: so likewise the art of medicine, if it be a real art, and not barely a name, is the best of all worldly gifts, and so much more preferable to all others, as life surpasses all the enjoyments it brings with it (a).

(z) This will, perhaps, appear to be alledged without sufficient foundation, unless it be understood in a qualified degree. Medicine, considered as an art, might have been confined within these narrow limits within our author's time; but remedies had been universally sought after, and many were discovered, soon after mankind became subject to diseases; it being natural for them to seek relief. Thus physic had its origin from a principle of self preservation; and in this sense it may be asserted, that no nation, however barbarous, was without some knowledge of it; as being possessed of several experienced remedies for particular disorders.

(a) Health of body being the next valuable blessing to health of mind, the art which treats of the means of preserving good, and restoring ill health, and is upon such an infinite number and variety of occasions found to answer these noble ends, may with reason be reckoned amongst the most excellent, necessary, and useful ones we are acquainted with. What multitudes of mankind have been, and are daily, indebted to it for a great part of the happiness of their lives:—living monuments of its real and extensive usefulness. Does such an art stand in need of laboured encomiums to display its excellencies? No—such notorious instances are a demonstrative proof of them; which no raillery, or invectives, can in the least invalidate.

28. But,

28. But, to return to our subject; how advantageous soever it be, in general, to keep the patient from bed at the beginning of the disease, yet sometimes (which is to be observed) he must be wholly confined to it, before the eruption. For instance, when a child, after dentition, is suddenly seized with convulsions, we must consider that this may probably proceed from the endeavour of nature to drive out the eruptions of the *small-pox*, *measles*, or *scarlet fever*, though they yet lie concealed in the skin. In order, therefore, to guard sufficiently against this dangerous symptom, a blister must be immediately applied to the neck, and the child put to bed, and a cordial exhibited with a small quantity of some opiate; whereby, the cause of the disease may be more powerfully expelled, and the disturbance also quieted, which occasioned the fit. For instance, five drops of *liquid laudanum* must be given to a child of three years old, in a spoonful of *plague-water*, or the like (b). And, in truth, I much suspect, not to say I am certain, that some thousands of children, and some grown persons, have been destroyed for want of the physician's reflecting that these convulsions are only the fore-runners of the abovementioned diseases: for unthinking practitioners taking these fits, which are really symptomatic, for essential diseases, and attempting to cure them by a frequent repetition of glysters and other evacuations, hinder the eruption of the *small pox*, and so prolong the fits, which they so solicitously endeavour to conquer, and which would, otherwise, certainly vanish spontaneously, upon the appearance of the pustules. Besides, the *small-pox* that is preceded by convulsions in children, (as we have elsewhere intimated) (c) attack them in a gentle manner, and seldom proves very confluent; so that the patient may be put to bed, with much less danger in the beginning of the disease.

Sometimes necessary to confine the patient in bed before the eruption.

(b) This spirituous vehicle is much too strong to be given to such young children, and the quantity of it is too large, even though it were to be diluted with some simple distilled water. Besides, the medicinal use of distilled spirituous liquors, does so frequently prove highly prejudicial to grown persons, that no prudent physician will encourage the giving them in any but the smallest quantity, and very seldom in so tender an age.

(c) See Pag. 102. Par. 2.

B b 2

29. But

The *small-pox* which succeeds *comatous* disorders proves very confluent.

29. But I have observed, that the *small-pox*, which immediately succeeds *comatous* disorders, proves very confluent, in which case, I rather order a blister, and the opiate, described above, than let the patient keep his bed before the eruption: For sometimes, though very rarely, I have known such convulsions precede the fits of intermittents, and have often seen them begun and terminated by *comatous* disorders, both in children and grown persons; neither of which, however, need be minded, but the fever only is to be vigorously attacked, as it is the primary and essential disease. For, if I were to attend chiefly to the cure of these *comatous* disorders, accompanying the fever, and accordingly try to conquer them by bleeding, purging, and repeated glysters, I should heighten the fever, and of course increase the *coma* to such a degree, that my patient would be laid asleep for ever; whereas, if I use my utmost endeavour to cure the fever, all the symptoms dependent on it will easily go off with it: which I desire may be carefully noted, because very fatal mistakes are often committed in this point (*d*). But I have treated amply of this in another place.

Bleeding and a vomit sometimes requisite.

30. I proceed next to observe, that tho' the patient may sometimes refrain from bed in the day time, yet, in case of extreme sickness, a high fever, violent vomiting, a vertigo, a kind of rheumatic pains of the limbs, and the like disorders, he cannot be allowed this refreshment, for these symptoms indicate the contrary; and if they be violent, especially in the young and sanguine, forebode that there is a copious variolous matter in the body, and threaten great danger from the tumultuary eruption of the pustules, which will prove very confluent. In this case, therefore, as all endeavours must be used to check the immoderate ferment, which notwithstanding, on the one hand, will rage more by the continual warmth of the bed, and yet, on the other hand, the patient cannot keep up, by reason of extreme sickness, unless we relieve him, it is indispensably necessary to bleed first in the arm, and to give a strong vomit in a few hours afterwards, of the infusion of *crocus metallorum*, which not only expels the matter occasioning this unusual sickness, but refreshes the patient so much, that being now in a manner well, he is able to

(*d*) See p. 132. 204.

refrain

refrain from bed (e). Neither are we to endeavour to weaken the force of the ferment by this method only, but, for the further safety of the patient, besides the evacuations just mentioned, it will be proper to give him plenty of *spirit of vitriol*, in every draught of small-beer, till the eruption be quite over (f). And notwithstanding these evacuations, and the use of the cooling drink, the patient must not be allowed to keep his bed in the day, if he can bear to sit up; because these general remedies do not check the assimilation of the variolous matter, near so much as once cooling the blood by drawing in the fresh air, and breathing it out by the lungs, which alone immediately abates the symptomatic sickness, abovementioned, in a surprizing manner, as I have several times experienced. But this somewhat unusual method is not necessary, unless as such as are in the prime of life, whose blood has been over-heated by venery, or wine, and in others (always excepting young children) who, together with the *small-pox*, struggle with the abovementioned violent symptoms. For where the blood is less inflamed, and the symptoms milder, as there is much less danger of assimilating the variolous matter too hastily, so, of course, neither the abovementioned evacuations, nor the *spirit of vitriol*, need be used.

31. I have treated this subject more at large, because I am certain that success or failure in this disease depend chiefly, if not entirely, on the management of the patient in the beginning. But the eruption being over (which is compleated on the *sixth* day, from the beginning of the illness, and on the *fourth*, inclusive, from the first appearance of the pustules) the patient is not to be kept from bed the rest of the distemper throughout, which indeed, as it ought not to be allowed before this day, so the condition of the patient will hardly admit of its being longer delayed, if the *small-pox* be of the confluent kind. And let it be remembered, that this is the only sort of which I have hitherto treated; for if the eruptions be few, and distinct, it matters not which method be used, if the physician hath a tolerable share of skill; for want of which (though this kind is naturally void of danger) abundance have died, who unfortunately fell into the hands of such as placed all their

When and how long the patient is to be confined in bed.

(e) See pag. 24. note (y).

(f) See pag. 224. note (b).

hopes in promoting the heat, and so ignorantly conspired with the disease to destroy the patient.

Restlessness to be relieved by opiates.

32. From this time the eruptions begin to fill, and inflame the whole body, especially the head, so that the patient, if not a child, grows restless, and cannot readily sleep, which is next to be carefully attended to in this disease; for the calmer the motion of the blood is, the better the eruptions fill, and come to their due size; and, on the contrary, the more violent it is, the more the eruptions sink, their farther progress being checked; so that the expulsion of the peccant matter is not only obstructed, but the order and genuine crisis of every particular *phlegmon* is also disturbed, whence the eruptions either do not come to separation in due time, or instead of *pus* an *ichor* is at length generated, and instead of the yellow matter, resembling the colour of an honey-comb, some black or other preternatural humour, unlike the genuine eruptions of the *small-pox*, is discharged. It seems to me, therefore, that *opiates* are as much indicated in the confluent *small-pox*, as any particular remedy is in any other disease; being a kind of specifics here, as the *bark* is in *intermittents*; tho' I am well aware that they do not operate by an absolute specific virtue, but only by answering that indication, which consists in quieting the tumultuary motion of the blood and spirits, that always accompanies the confluent *small-pox* in grown persons, and chiefly demands their use. Whoever, therefore, esteems these symptoms to proceed only from the watchings, is not enough acquainted with the nature of this disease: for tho' it may sometimes happens in this case, that the patient's spirits may be composed and calm, (which frequently happens upon taking *laudanum*) so likewise sometimes the spirits being in violent motion, check the kindly eruption of the pustules, tho' the patient sleeps much; which is well worth observation.

Diacodium preferred to *laudanum*, and in what dose to be given.

33. To treat now of the kinds of opiates: tho' I have given *liquid laudanum*, several years successfully, in this case, nevertheless I think *syrup of poppies* is preferable to it: for tho' both are used for the same purpose, yet in my opinion *laudanum* is a little more heating than *diacodium*. As to the dose of this syrup, it is to be proportioned to the age of the patient, and the urgency of the symptoms; for what perhaps might be too much for

for one whose spirits are composed, would be too little for another, whose spirits are greatly hurried. For instance, suppose in general that six drams is a sufficient dose for most persons, yet in the *small-pox*, whenever it is wanted, we must give very near an ounce of it to answer any purpose; and no less quantity must be prescribed for a dose, throughout the course of the disease. We speak of grown persons now, for in giving it to children, the dose must be lessened in proportion to their age. Children, however, have not the same occasion for opiates in this disease as grown persons, because they are more inclined to sleep as long as it lasts; yet when they are much endangered thereby, I should be afraid to refrain from opiates. But, I was going to observe, that it is difficult to settle the dose of opiates in all the cases in which they are required; for whether it be (1) in a tumultuary motion of the spirits; (2) a violent vomiting and purging, or (3) severe pain, (these being the three disorders wherein opiates are chiefly indicated, as we have elsewhere observed) they are to be exhibited in such a manner, that if the first dose answers not the end, it must be repeated at proper intervals, till it does; not so much minding the quantity taken, as the effect it should produce; which being answered, (and not till then) it must be administered less frequently and copiously. But such a space must be interposed between every dose, that we may be able to learn whether the last has taken effect, before giving another; which being obtained, the dose is to be diminished in the course of the disease, as there shall be occasion.

34. I have several observations by me to confirm ^{A case,} what I have hitherto laid down, but at present will on-^{exempli-}ly set down one. On the 13th of *April*, 1681, Mrs. ^{fyng the} *Cross*, a neighbour of mine, came to me in tears, and ^{author's} earnestly begged of me to go and see her son, a youth ^{method.} of ten years of age, who, having been ill four days, she apprehended had the *small-pox*. As I was confined with a fit of the gout, I desired my apothecary to call upon him, and let me know how he was; when he came back, he told me, that the mother had, by the advice of some women, given him the countess of *Kent's* powder, and other hot medicines; and had besides, in a manner, buried him under the cloaths, in order to raise a sweat by the weight thereof; which the women

have recourse to in this disease, as the last refuge. She had also given him a large quantity of posset-drink, wherein *marigold-flowers* and *hartshorn* had been boiled, which encreased the fever, and caused such a disturbance of the spirits, that the child was very delirious, and could scarce be kept in bed by the attendants. The pustules did not yet appear, at least very visibly, but lay very thick in the skin, the eruption being manifestly hindered by this violent method, which was intended to promote it. I ordered him to be immediately taken out of bed, and not to go into it again, except a-nights only, till after the *sixth* day; I also prescribed half an ounce of *diacodium* to be taken directly, which proving ineffectual, I ordered the same dose to be repeated an hour after, but unsuccessfully; for the blood was so violently agitated, that it could not be quieted before he had taken two ounces and an half: but such a space was interposed between every dose, that I might be certain what effect the last had. Afterwards, I prescribed only half an ounce to be given every night, at bed-time, to the end of the disease, which proved sufficient to preserve the calm, that had already been obtained by a more frequent use thereof: and by this means the patient recovered.

Restlessness
sometimes
is not to be
removed
by an opi-
ate only.

35. And here I must inform you, that in case the heat and motion of the blood and spirits be extremely violent in the beginning, an opiate, though given in the largest dose, and frequently repeated, will scarce avail, unless the patient quits his bed; for the warmth thereof encreases the heat of the disease, so as, upon this account, to make it necessary to give the opiate in a larger dose, than perhaps nature is able to bear: which likewise happens, but with less danger of life, when the bark is given in an intermitten fever, whilst the patient keeps his bed. And this perhaps may be the reason why the cure of the intermitten is sometimes protracted, which otherwise might have been sooner performed; and sometimes, likewise, if the fever only remits, it is so encreased thereby, as greatly to endanger life.

When to
be given
first, and
how long
to be con-
tinued.

36. But not to mention extraordinary cases, wherein this remedy may be indicated at any time of the disease; I would have it first exhibited in the evening, when the patient is wholly confined to his bed, (*viz.* the *sixth* from the beginning of the illness) and repeated after-wards

wards every evening till the *seventeenth* day, or at least till the danger is over (g). For on the *sixth* day the fleshy parts are inflamed, whence the head begins to be disturbed by the humours, which are also inflamed from this cause.

37. But great care must be had to give the opiate earlier in this, than in other diseases; because a kind of fit of heat and restlessness, always comes on towards evening; and sometimes it happens, unless it be given early at the decline of the disease, that the patient becoming suddenly somewhat heavier, immediately grows hot, and afterwards complains of sickness, which soon terminates in death; to the astonishment, and contrary to the expectation of his friends, who a little before conceived great hopes of his recovery: and his death might, perhaps, have been prevented by giving an opiate directly. On these days therefore, but especially on the *eleventh* day, I order the opiate to be given earlier; as at *five* or *six* o'clock in the afternoon, and a second dose to be kept in readiness, in case sickness should come on suddenly. For I am thoroughly persuaded that some of my acquaintance have died, for want of taking this medicine, when the case required it: so that if opportunity be quick in any case, it is chiefly so in this.

38. Since, therefore, it is so dangerous, either to omit giving an opiate soon enough, or contrariwise to give it so early, that its quieting virtue be spent before the time comes for repeating it; it is safest, in this uncertainty, to order an opiate to be taken at a set hour, every morning and night, on the last and most dangerous days of the distemper. Nor is an ounce of *diacodium* always a sufficient dose at these times, for this quantity avails no more in a violent inflammation of the blood, and a very tumultuary motion of the animal spirits, than half an ounce, in a milder disease. For I have learnt, from repeated experience, that an ounce and half is required in the young and sanguine, to mitigate the violence of the symptoms wherewith they are seized, and which we do our best to prevent; and in such subjects, this dose may be repeated with safety and great advan-

To be given earlier in this than in other diseases.

And at a set hour morning and night.

(g) An opiate ought not to be given if the spitting abates considerably, or the *saliva* grows tooropy and tough as to endanger suffocation.

tage at such times, morning and night, till the patient recovers.

And some-
times
thrice in
twenty
four hours.

39. Moreover, I own, that I have sometimes found it necessary, at the decline of a highly confluent *small-pox*, to exhibit an opiate thrice in the space of twenty four hours, *viz.* every eighth hour, on account of the violent motion, or disturbance of the spirits, occasioning some sickness, which required it to be repeated more frequently. But it is to be observed, that if the exhibiting *diacodium* with such frequency, be nauseous to the patient, (which often happens on the abovementioned days) *liquid laudanum* must be prescribed instead of it; sixteen drops of which are equivalent to an ounce of *diacodium*, in case it be prepared according to our method already delivered (*b*).

An objec-
tion to so
frequent a
repetition
of it an-
swered.

40. I am well aware, that it will be objected by those of a different opinion, that the peccant matter will be fixed, and the salivation diminished by repeating the opiate with such frequency in so large a dose. But to this I answer, that tho' indeed the spitting will be in some measure abated, it will not however cease so entirely, as not to rise again in some degree, after the opiate has been taken a considerable time, and its virtue is nearly spent, and besides will be attended with this double advantage. (1) The patient being strengthened by the opiate will be better able to expectorate the phlegm, and the *saliva*, tho' less copious, be better concocted. (2) The want of sputation is abundantly supplied by the swelling of the hands and face, which happens more certainly, and rises higher from the repeated use of the opiate, on those days wherein these parts usually swell, *viz.* the face, from the *eighth* to the *eleventh* day, when it commonly begins to fall, but the hands, from the *eleventh* day, till the pustules upon these parts be entirely ripe. And I positively assert, (which no person who is thoroughly acquainted with this disease can deny) that the want of either of these swellings, when they ought to appear, threatens more danger than the stoppage of the salivation. For my own part, I esteem it much safer to risque the danger of checking the spitting than to refrain from opiates, which are so very requisite in this

(*b*) See pag. 161. par. 14.

disease, that whoever deprives his patient of so great a help, betrays much neglect and unskilfulness (i):

41. But what I have hitherto delivered, is not to be understood as if I would advise the daily use of *diacodium*, tho' in a suitable dose, in young children afflicted with the confluent *small pox*, unless it threatens great danger; and this for two reasons; (1) because children are not so hot as persons in the prime of life; and (2) because their tender age is less able to bear the continued use of opiates; whereto may be added, (3) that children in this disease, sleep most part of the time spontaneously, and so are less sensible of the tediousness thereof; yet, nevertheless, when the eruptions are of a bad kind, or they become delirious, opiates are always indicated: these being certain signs of the irregular motion of the blood and animal spirits (k).

Not to be given so often in young children, unless in cases of great danger.

(i) Now, concerning those medicines which ease pain, and procure sleep in this severe disease, Dr *Mead* tells us, that they are not to be used over-hastily: for all *anodynes* in some measure obstruct the separation of the morbid humour from the blood, unless the pain happens to be excessive: and moreover, if the violence of the fever has raised a *delirium*, they generally make it worse: wherefore, it is not proper to employ them, until the eruption of the pustules be compleated; but after that, narcotics may be administered with safety. Thus it will be right to give the patient a dose of the *Thebaic tincture*, or *diacodium*, every evening, especially if he be a youth, or an adult person: for these medicines agree not so well with infants. And sometimes, in cases of very great inquietude, the dose is to be repeated in the morning; for the suppuration of the matter stagnating in the pustules is forwarded by quiet and sleep. But if, towards the end of the disease, the patient happens to be seized with a shortness of breath, or danger of choking from viscid slime, these medicines are to be entirely prohibited. In the mean time, if the patient is costive, which is generally the case, and the fever continues, the body is to be opened with a clyster every second or third day. *Stack's translation of his discourse on the small pox*, p. 45.

It should not be concealed that Dr *Simson* differs from Dr *Mead* in this particular; for he never gives an opiate, but when the suppuration is accompanied with great pain and restlessness; and procures to his patients the ordinary course of their belly, thro' the whole time of the suppuration: a practice which he assures us has been attended with most agreeable success.—See *the medical essays in 8vo*. Vol. V. Part 2. p. 579.

(k) Children are sometimes so fretful and tedious in this disease, that opiates can no more be dispensed with, than in grown persons, and do equal service: many instances of which have fallen under my observation.

42. These

The chief
curative
indications
specified.

42. These two particulars, of which we have treated so fully, *viz.* (1) the method of preventing the over-hasty assimilation of the variolous matter at the beginning of the disease, and (2) the manner of checking the inordinate motion of the spirits, arising from the inflammation of the external parts, are the two points, wherein the cure of the disease consists; inasmuch as the ill accidents which succeed, for want of sufficiently preventing these two dangers, occasion those fatal symptoms, which destroy the patient in this disease. These, therefore, being the chief curative indications, when I have sufficiently answered them according to the method just delivered, I have discharged my duty as a physician, and not a prescriber of medicinal *formulae*; which two arts, talents, or provinces, as you please to term them, differ greatly from each other.

A blister
when to be
applied,
if necessary

43. To mention one thing more, if there be occasion for a blister, it should be made very large and sufficiently sharp, and applied to the neck, but neither too early, that it may not cease running before the *eleventh* day, which is attended with most danger, nor deferred to that day, so as to prove prejudicial, at this time, from being laid on too late, by encreasing the heat of the blood, which is then scarce able to struggle with the secondary fever. The fittest time, therefore, to apply a blister, is the evening preceding the great *crisis* of the disease, presently after the opiate which is to be taken at this time. For if it be applied now, the pain it causes will go off before the critical day, and there will then be a discharge of the peccant matter, which is necessary to conquer the violent symptoms, happening on this day (1). For now the swelling of the face
first

(1) With respect to blistering, in this disease, we cannot do better than transcribe some highly useful rules concerning it, from the work of a very able and successful practitioner.

From as much as we know of the nature of this disease, says Dr *Hillary*, and the effects of blisters, if ratiocination is at all allowed in medicine, we must necessarily conclude, that they are generally, if not always, improper in the *first*, are seldom useful in the *second*, and oftener are applied, than advantage resped from them, in this *third* stage of the disease, except as repellents.

The only cases in the present situation, in which they can be rationally prescribed, are, in my opinion, the following, *viz.* where the patient is of a lax, weak habit, the pulse low, weak,
and

first begins to sink, and the salivation, which had hitherto been copious, to abate; the humour, which occasioned it, being thickened, and difficultly raised. Not to mention that the blister supplies, in some measure, the sinking of the swelling of the face, and the and depressed, and the fever insufficient for the expulsion and suppuration of the pustules, thro' mere weakness of the solids, and viscosity of the fluids, or where the remote parts of the body are cold, and the eruption is thereupon stopped, or the pustules receded in the *second stage*. Or when the swelling of the face, hands, or feet, in the *third stage*, rise not at the proper time, or too suddenly subside, and nature sinks under the load, or where the *ptyalism* suddenly stops before its usual period, or a *coma*, or *comatous delirium* from a viscosity of the fluids appears, or an afflux of these to the brain; or if the fever is too low. In these circumstances, I say, blistering freely must be of service, and for the very same reasons that must always render them injurious in every stage of the genuine inflammatory *small pox*, except, as we took notice before, they are used as repellents; it being evident from the stranguaries, feverish heats, restlessness, and continual thirst, almost always attending the operation of *vesicatories*, that the active and corrosive salts of the *cantharides*, when mixed with the blood in the course of circulation, certainly increase its velocity, and render the inflammation more violent. See his *practical essay on the small-pox*, p. 94, 95.

The best time of applying *blisters*, as both reason and experience shew, says Dr *Wintringham*, is when either the feet or hands ought to swell, provided the nature of the disease will admit of their being deferred to that time; and especially if these swellings do not appear in that stage of it appointed by nature for their appearance. For at this period the spitting generally abates, and the humours become very turgid, and nature endeavours to drive them to the extremities, and by the swelling of these parts to relieve the patient; for which reason this stage of the distemper requires either that they should be speedily carried thither, or that the belly be opened, and some part of them carried off this way; but which of the two is then most eligible, must be determined by the strength of the patient, and the urgent symptoms (whether for instance the fever rises too high or sinks too low) and not by general rules.

Is not bleeding, therefore, opening the body, blistering, and the like, hurtful or beneficial to the patient, according to the different degree of the inflammation, the different time of the disease, the constitution of the patient, and the like circumstances? And may not more certain indications for the timely use of all these remedies, both in this and the other stages of the distemper, be taken from the strength or the weakness of the fever, and the foulness of the redundant humours, which oppresses the sick; always observing this particular, that if the fever rages greatly, and the strength keeps up, it is necessary to refrain from *stimulants*, and *painful evacnants*; but that if the contrary symptoms urge, *blisters* must be applied, and gentle laxatives administered? *Comment. Nosolog.* p. 98.

abatement

abatement of the salivation, and, likewise, contributes somewhat to check the secondary fever, which is then very high, the blood being in a manner oppressed, and totally infected with the abundance of *pus* absorbed from such a multitude of little imposthumes, so that in most of the patients I have treated in this disease, I have observed, that the pulse in the wrist, could scarce be felt at this time, tho' it was easily felt the preceding, and following day.

Efficacy of
garlick ap-
plied to
the soles
of the feet.

44. But amongst all the remedies that occasion a deprivation, or a revulsion from the head, none, in my opinion, seems to operate so efficaciously as *garlick* applied to the soles of the feet. That it does really draw, is manifest by the blisters it frequently raises, and the intolerable pain it sometimes, though rarely, occasions, by inviting the humours to those parts, even without raising blisters; so that to ease it, I have found it needful to order a cataplasm, made of the crumb of white bread, boiled in milk, to be applied thereto. In grown persons, therefore, afflicted with the *confluent small-pox*, I usually apply *garlick* sliced, and included in a linnen rag, to the soles of the feet, from the *eighth* day, when the swelling of the face first begins to sink, and renew the application every day, till the danger be past.

The regi-
men.

45. I must further observe, that the patient must be kept from flesh throughout the course of the disease, and only allowed small-beer for his common drink. In the mean time, it will be convenient for him to live on water-gruel, roast-apples, and the like. But upon the approach of the suppuration, when the purulent particles return into the blood, and taint the mass, it will be proper to give a few spoonfuls of *wine*, every morning and night. As to the coverings of the bed, they are to be precisely the same he made use of in health; and he is to be permitted to turn himself in bed as he pleases, whereby the symptomatic sweats may be prevented, which, I conceive, have been sufficiently shewn to injure the patient; and, by this means, the violent inflammation of the pustules, arising from the excessive heat contracted by the fleshy parts, by lying always in the same place, will also be prevented. But I have treated of this at large in another place (*m*).

(*m*) See p. 123. par. 46. and p. 125. par. 50.

46. I will subjoin a late case, as a specimen of this whole procedure. I was sent for this winter by lady *Dacres*, to attend her nephew, Mr *Thomas Chute*, a person of a very sanguine constitution, and in the prime of life. The day before I came he was seized with a high fever, vomited a considerable quantity of bilious matter, and had a violent pain in his back. In order to mitigate these symptoms, he went to bed, and by heaping on cloaths, and taking hot liquors, spent a day to no purpose in endeavouring to force sweat, the great tendency to vomiting, and the purging, tho' moderate, rendering the sudorifics ineffectual, and in the mean time increasing the fever. I suspected the *small-pox* would shortly appear, and likewise prove very confluent; both on account of his youth, and the great inflammation raised in his blood by the fruitless attempt to procure sweat (which if the disease had happened in the summer, would certainly have occasioned *bloody urine*, and *purple spots*) but chiefly, because I have always observed, that in young persons attacked with excessive vomiting, sickness and extraordinary pain, the succeeding *small-pox* proved highly confluent. For this reason, judging it requisite to use all endeavours to prevent the too-hasty assimilation of the variolous matter, I kept him up, till his usual time of going to bed; and the next day in the morning, which was the *third*, the *small-pox* not appearing, I directed eight ounces of blood to be taken away from the right arm. The blood was good and florid, having as yet only received the spirituous venom, and not that putrefaction occasioned by a longer continuance of the disease, and generally observable in the blood of persons lately recovered of this disease. The same day at five in the afternoon, I exhibited an ounce of the infusion of *crocus metallorum*, which operated well, carrying off his sickness, so that he seemed much better, and willingly refrained from bed, which he did not care to quit before, by reason of his great sickness and giddiness. On the fourth day in the morning, I found the eruptions coming out so copiously, notwithstanding the endeavours I had used to prevent it, that they threatened the utmost danger; I was, therefore, very cautious to keep him up in the day time, and advised the drinking of small-beer acidulated with *spirit of vitriol*. He continued the use of these things

A case explaining the whole procedure.

things to the sixth day, when, tho' he was not sick, but much refreshed by the fresh air, yet his body was loose between whiles; towards night, he was obliged to go to bed, which is common in this case, and, therefore, he continued therein, by my consent, during the whole course of the disease; the eruption being now over. Tho' the pustules were fewer, than I have observed in some that have died in this disease, yet they were more numerous, than they generally are in most that recover. I first exhibited, this evening, an ounce of *diacodium* in *cowslip-flower water*, and directed it to be repeated every night; I likewise advised, that he should have no more cloaths laid on him, than he was accustomed to in health; and prescribed for his diet, water-gruel, barley-broth, and sometimes a roast apple, and for his drink, small-beer. On the eighth day I ordered sliced garlick, folded in a linnen rag, to be applied to the soles of his feet, and renewed every day till the danger was past. After this the pustules ripened kindly till the tenth day, when visiting him in the morning, tho' I found him in a fair way, yet I perceived some signs of the secondary fever, along with some kind of restlessness. Apprehending, therefore, the approaching danger, I immediately exhibited the opiate abovementioned, which quieted all the symptoms, and the same evening I prescribed an ounce and half of *diacodium*. The next morning, which was the eleventh day, (the virtue of the opiate he had taken the night before being spent) he began to grow restless again; whereupon I gave him the same quantity immediately, and repeated it in the evening, and ordered it to be continued morning and night, till he was perfectly recovered. The patient complied, and no dangerous symptom after appeared, except a suppression of urine sometimes, which frequently attacks young persons in this disease, but he made water kneeling in bed. As to the spitting, tho' it was checked in some measure by the frequent repetition of opiates in so large a dose, yet at distant intervals from the use of them, he expectorated concocted phlegm, and his face and hands swelled sufficiently at the proper time. On the eighteenth day he arose from bed, and I then first allowed him to sup some chicken broth, and afterwards he returned by degrees to his usual manner of living. On the twenty-first day eight ounces of blood

was

was taken away from his arm, which resembled pleurific blood, and differed little from *pus*. Lastly, he was purged four times, at proper intervals.

47. It is here to be noted, that as often as the day from the beginning of the illness is mentioned in these sheets, for instance, the *sixth*, the *eleventh*, &c. I would not be understood to mean that the *confluent small-pox* always came out on the third day; because I am well aware that sometimes, even in the worst sort, the pustules do not appear till after the *third* day. But in general, the eruption happens on the *third* day, inclusive from the beginning of the disease. Thus, for instance, a person who is seized with the *confluent small-pox* on *Monday*, will find the pustules appear on the *Wednesday* following; and the second *Thursday* after the first *Monday*, will be the *eleventh* day, which is highly dangerous, unless the physician uses his endeavour to prevent it.

The day from the beginning of the illness how to be understood.

48. And I repeat it here once more, that these observations relate only to the *confluent small-pox*, and are no way useful, or required in the *distinct kind*. Those, therefore, who boast of curing this disease, when the eruptions are few and of the *distinct kind*, impose upon themselves, as well as others. But if they have a mind to make a trial of their abilities, let it be in the *confluent small-pox*, especially in such subjects as are seized with it in the vigour of life, or have over-heated themselves by drinking wine too freely; lest being exercised only in slight matters, they should be so far mistaken as to imagine they have saved those, whom their attendants did not destroy.

These observations relate only to the *confluent small-pox*.

49. I will not finish this short dissertation, without relating a history which was communicated to me, whilst I was writing it, by my intimate friend *Dr Charles Goodall*, a fellow, and then censor of the college of physicians; judging it necessary, in order to confirm what I have advanced here, and in my other writings, concerning *purple spots* and *bloody urine*; for both these symptoms, when they happen in acute diseases, proceed entirely from a violent inflammation of the blood, and therefore indicate cooling remedies. The case is as follows:

The history of a patient of *Dr Goodall's* in a fever.

“ 50. A young man of about twenty seven years of age, slender, and of a hot constitution, was seized

Of the Small-pox

“ in June 1681, with a violent continued fever, at-
 “ tended with a dryness and foulness of the tongue, ex-
 “ treme thirst, a quick pulse, pain in the parts conti-
 “ guous to the *scrobiculum cordis*, but especially in the
 “ back, where it was continual, and sometimes *bloody*
 “ *urine*, and numerous brownish spots in the neck,
 “ breast, and wrists. The physician was called on
 “ the sixth day, and found the patient in great danger
 “ from the copious discharge of *bloody urine*; and upon
 “ this account judged, that the curative indications
 “ were, (1) to cool and thicken the blood, and (2)
 “ close the mouth of the relaxed vessels of the kidneys.

51. “ Bleeding, therefore, and a lenitive bolus being
 “ premised, he earnestly advised the patient to refrain
 “ from bed, as much as he could, not doubting that
 “ the voiding *bloody urine* was promoted by the con-
 “ tinual warmth thereof. He also recommended him
 “ rather to sleep upon a leathern couch, and seldom
 “ to lie on his back; to drink milk boiled with thrice
 “ its quantity of water, and live on panada, rice-milk,
 “ and roast apples, either alone, or squeezed into water,
 “ and sweetened with sugar. And he prescribed the
 “ following remedies.

An astringent infusion.

Take of the leaves of red roses, six drams; the inner bark of oak, half an ounce; the seeds of plantain, bruised, three drams; spring water, two pints; spirit of vitriol, enough to give it a grateful tartness; infuse them together in a closed vessel with a gentle heat, four or six hours: to the strained liquor add three ounces of small cinnamon water; and fine sugar enough to sweeten it. Let the patient drink often of this infusion day and night.

“ A glyster of milk and syrup of violets was injected
 “ at two in the afternoon, and the following draught
 “ exhibited at bed-time.

An anodyne draught.

Take of the distilled waters of cowslip-flowers, plantain and cinnamon, of each half an ounce; distilled vinegar, two drams; syrup of white poppies, six drams; mix them together.

“ 52. On the seventh day, the symptoms abating
 “ little, the glyster just described was ordered to be in-
 “ jected

“ jected every day, and the following emulsion and
 “ draught prescribed.

Take of the seeds of succory, endive, lettuce, and purslain, A cooling emulsion.
 each two drams; the seeds of quinces and white pop-
 pies, each a dram and half; four sweet almonds,
 blanched; beat them very well in a marble mortar;
 then pour on by degrees a pint and half of barley-wa-
 ter, and sweeten the strained liquor with a sufficient
 quantity of fine sugar. Let twelve spoonfuls of this
 emulsion be taken every four hours.

Take of the distilled waters of cowslip-flowers, water- An ano-
 lillies, oak-buds and plantain, each half an ounce; dyne
 distilled vinegar, and small cinnamon water, each draught.
 three drams; confection of hyacinth, half a dram;
 diacodium, an ounce: mix them together for a draught
 to be taken at bed-time.

“ 53. On the eighth day, as the fever still conti-
 “ nued, and the patient voided much bloody urine, and
 “ the spots likewise were numerous in the abovementioned
 “ parts, the physician, supposing these symptoms to proceed
 “ from the heat, thinness, and acrimony of the blood ordered
 “ bleeding to be repeated, and allowed a freer use of small-
 “ beer agreeably acidulated with spirit of vitriol. But when
 “ the patient began to have an aversion to this liquor, a whey
 “ made of milk and juice of lemons was substituted in
 “ its stead, and he was likewise permitted to eat lemons
 “ thinly sliced, and enveloped with sugar, and to these
 “ the following remedies were added.

Take of the conserves of wood-sorrel and hips, each half An astringent elec-
 an ounce; confection of hyacinth, three drams; tuary.
 diascordium, a dram and half; red coral prepared,
 dragon's blood, Armenian bole, of each a scruple;
 syrup of comfrey and mouse-ear, of each enough to
 make the whole into an electuary; of which the quan-
 tity of a hazel nut is to be taken every six hours,
 drinking after it a small draught of whey, made with
 milk and juice of lemons, sweetened with sugar; or of
 the vulnerary decoction, acidulated with spirit of
 vitriol.

Of the Small-pox

“ Let the draught prescribed last night be repeated
 “ with ten drams of *diacodium*.

“ 54. On the ninth day the *petechiæ* vanished by de-
 “ grees, the urine was not so bloody, and the blood
 “ that was mixed with it separated more easily, and
 “ subsided sooner to the bottom of the containing ves-
 “ sel; for which reason the patient was advised to con-
 “ tinue the use of these remedies; and in a few days
 “ the following were added to the same purpose.

A restrin-
 gent elec-
 tuary.

Take of the conserve of red-roses (driven thro' a sieve,
 and acidulated with spirit of vitriol) four ounces;
 Lucatellus's balsam, two ounces; Armenian bole,
 dragon's blood, and the species of the electuary of co-
 ral, each a dram; syrup of coral, enough to make
 them into an electuary; of which let the patient take
 the quantity of a nutmeg, twice a day, with a draught
 of the following emulsion.

An increas-
 ing
 emulsion.

Take of the seeds of lettuce and purslain, each three
 drams; quince seed, a dram and half; the seeds of
 white poppies, half an ounce; five sweet almonds
 blanched; beat them well together in a marble mor-
 tar, then pour on by degrees a quart of plantain wa-
 ter, and three ounces of small cinnamon water; last-
 ly, sweeten the strained liquor with fine sugar.

“ The fever and the fatal symptoms abovemention-
 “ ed, were carried off in three weeks by these reme-
 “ dies; and the spots disappearing, and the urine re-
 “ turning to its natural colour and consistence, the pa-
 “ tient by degrees recovered his health.”

Bloody u-
 rine and
 purple spots
 require the
 same treat-
 ment in fe-
 vers, and
 the small-
 pox.

55. But tho' the symptoms above enumerated only
 accompanied the continued fever, and not the *small-
 pox*, yet, whenever they happen in either disease, they
 always proceed from a violent inflammation and an
 excessive attenuation of the blood, whence it is forcibly
 driven thro' the mouths of the vessels. And doubtless
 the same method is to be used in such a similitude of
 causes, as far as the nature of the respective diseases will
 admit. And, for this reason, I asked Dr Goodall's leave
 to communicate this cure here. Now, if my greatest
 enemy, (tho' to judge of the dispositions of others by
 my own, I should hope I have none) had performed
 this

this cure, I should readily have acknowledged, (being overcome by truth) that it was one of the most remarkable I had ever known; for I have long ago experienced the fatal effects of *bloody urine* in fevers. But as this was effected by my intimate friend, how zealously ought I to contend for truth, and his reputation! For this gentleman it was, who, at a time when few durst assert that I had made the least discovery or improvement in physic, defended my reputation against those who injured my character, with as much warmth as a son would do that of a father. But tho' I am so much indebted to his goodness, I would nevertheless have concealed his praises, if they were not due to his merit; it being equally blame-worthy and false to commend or censure without cause. Let no one therefore be displeas'd with me for affirming, that he is a man of as much probity as I have ever known; for during the many years that I have been particularly intimate with him, I never knew him say, much less do, any thing to the prejudice of another. And how excellent a physician he is will shortly appear, (if his life be prolonged) as he hath with great judgment read the writings both of the ancient and modern physicians, and, with singular prudence and industry, investigat'd the nicest rules of practice, without a knowledge of which no man can practise the art with reputation; so that his patients will find him an able and successful practitioner.

Dr Goodall
commend-
ed.

56. And now I have deliver'd my sentiments on this disease, which are deduc'd from practical observation, and not from a groundless hypothesis; and in reality I cannot conceive how a person should be mistaken, who directs and confines all his reasonings to the bare practice of the art or science which he intends to learn and exercise with reputation. And; on the contrary, how it is possible that he should do any thing but spend his life idly in deceiving both himself and others, who employs his time in searching after such things as have not the least relation to practice. And as he would be no honest and successful pilot, who were to apply himself with less industry to discover and avoid rocks and sands, than to search into the causes of the ebbing and flowing of the sea; which, tho' well deserving the attention of a philosopher, is quite foreign to him, whose only business it is to secure the ship; so neither will

The au-
thor's sen-
timents on
the *small-*
pox deriv'd
from ob-
servation.

a physician, whose province it is only to cure diseases, arrive at a perfect knowledge of the art of medicine, tho' he be a person of genius, who bestows less time and application in investigating the hidden and intricate method of nature in producing and nourishing diseases, (whereon their histories also depend) and adapting suitable remedies thereto, than in curious and subtile speculations, that do not at all contribute to snatch the patient from imminent death, which is the intent of the healing art. And this delusory procedure does not only deprive mankind of those singular advantages, which would accrue to them from the ingenuity of many physicians, but renders the art of physic rather the art of discouraging than of *curing*. And it is come at length to this issue, that the patient must live or die, as the philosopher conjectures right or wrong; which must always be highly precarious, inasmuch as the first inventors of speculations contended as warmly about their fanciful opinions, as those did who blindly followed them, and it may be none of them in the right. For, tho' by much attention we may be able to discover what nature does in fact, and the organs she employs in her operations, yet the manner of its operating will always be a secret to us (n). Nor is this strange; since it is infinitely

(n) There is but this one way, *Van Swieten* observes, of discovering the nature of diseases; namely, by collecting the symptoms of the distemper, considering them separately, and then comparing them together, and likewise with what happens in a healthy state, so as from thence by close reasoning to investigate the immediate cause of the disease: but great care must be taken to mix nothing of a preconceived hypothesis with our reasonings. For notorious mistakes have been often committed by such as endeavoured to find out the causes of natural effects *a priori*, and disregarded the observation of those appearances which fell under the notice of the senses. For as *Sydenham*, who had not his equal in finding out the nature of diseases, wisely observes, — “*Though by much attention we may be able to discover what nature does in fact, and the organs she employs in her operations, yet the manner of her operating will always be a secret to us.*” Thus it appears by constant observation, that the velocity of the pulse is increased in every kind of fever, and consequently that the heart contracts quicker, and the causes on which its contraction depends, are augmented: but how those causes act which quicken the motion or pulsation of the heart: whence it happens, for instance, in an intermitting tertian fever, that they arise or become active every other day, but on the intermediate day are observed not to act at all, no body yet knows. Whatever, therefore, we
know

infinitely more probable, that we poor mortals, who are shut out from the glorious regions of light and life, cannot possibly comprehend the method which the All-wise Creator used in forming the machine; than that an unskilful smith should be ignorant of the manner of making a clock, the structure and motion whereof manifest the great delicacy of the art. And though it evidently appears that the brain is the origin of sense and motion, and the repository likewise of thought and memory, it is, nevertheless, impossible the mind should be so far enlightened by the most exact inspection and consideration thereof, as to understand how so thick a substance, and a kind of *pulp*, which seems not to be very artfully formed, should suffice for so noble an use, and such excellent faculties. Nor can it be accounted for, from the nature and structure of its parts, how any particular faculty comes to be exerted thereby.

57. And let these particulars suffice for the *confluent small-pox*; which, together with what I have already published concerning this distemper, in my history of acute diseases, comprehends all that I have hitherto discovered and considered, as attentively as I could, relating thereto.

58. I proceed now, in compliance with your request, to communicate the observations I have hitherto made concerning *hysteric disorders*; which I own are neither so easily discoverable, nor so readily curable as other diseases. However, I will endeavour to acquit myself herein to the best of my ability, and with that brevity which the compass of a letter requires; which in reality I am obliged to on account of my ill health, particularly at this season of the year, when too intense application would immediately bring on a fit of the gout. For this reason I shall avoid prolixity, and proceed accordingly to my usual method; which consists (1) in giving a short history of the disease, according to its genuine natural phenomena; and (2) subjoining the method of cure which hath succeeded best

The author's observations on hysteric disorders deduced from his own experience.

know of the nature of a fever, we learn from its inseparable effects and properties only; for the acuteness of man's understanding seem to go no further; neither have all such as endeavoured to penetrate beyond these bounds made any truly useful discoveries. *Comment. in H. Boerhaave aphorismos. Vol. 2. p. 11.*

with me, and which I formerly learnt rather from my own experience than from reading.

Hysteric disorders make a moiety of chronic diseases.

59. It should seem that no chronic disease occurs so frequently as this; and that, as fevers with their attendants constitute two thirds of the diseases to which mankind are liable, upon comparing them with the whole tribe of chronic distempers, so hysteric disorders, or at least such as are so called, make up half the remaining third part, that is, they constitute one moiety of chronic distempers. For few women, (which sex makes one half of the grown persons) excepting such as work and fare hardly, are quite free from every species of this disorder, and several men also, who lead a sedentary life, and study hard, are afflicted with the same. And though the symptoms, arising from hysteric diseases, were, by the antients, supposed to proceed from some disorder in the *womb*; yet upon comparing hypochondriac complaints, which we judge to arise from obstructions of the spleen and other *viscera*, with those symptoms which seize hysteric women, we find a great similitude between them (o). But it must be owned, that

(o) The *hysteric passion*, says *Hoffman*, is falsely held by several modern writers to be the same with the *hypochondriac disease*, or to differ only with respect to the sex, and not in nature; the latter only seizing men, and the former women. But to shew that there is a real difference between them, it would be worth while to give a true history of the hysteric disease; to which end if we consult the antients, and especially *Hippocrates*, *Aretæus*, *Fernelius*, *Duretus*, *Montanus*, *Ballonius*, *Hollerius*, *Mercurialis*, and *J. Heurneus*, they seem unanimously of opinion, that a strangulation of the *fauces*, quick and difficult respiration, so as to endanger suffocation, loss of speech, and all sense and motion, are to be accounted the proper and essential symptoms of this *uterine* distemper. And in effect, tho' both the hypochondriac and hysteric diseases appear to have some symptoms in common, yet they have several peculiar ones respectively, which fully manifest that they differ considerably from each other. Thus the *hypochondriac disease* is an inveterate disease, and requires a tedious process in order to the cure of it; whereas experience shews, that the *hysteric disease* often attacks pregnant and lying-in women with great severity, and also widows that are full of blood, after some considerable disturbance of mind, and virgins upon a sudden stoppage of the menstrual discharge, and yet they are freed from it so effectually that it never returns again. Moreover, this disease often seizes women of a sudden, so that they fall down directly without sense and motion; which is never observed to happen in the hypochondriac disease. And this is further remarkable in *hysteric paroxysms*, that the symptoms, tho'

that women are oftener attacked with these disorders than men; not indeed because the *womb* is more indisposed

tho' they lie without sense and motion, will often abate soon, or go off entirely, upon holding burnt feathers flaming under the nose. Again, in these fits the abdominal muscles are drawn inwards by the violence of the spasms, so that the navel in great part disappears; whereas, in *hypochondriac disorders*, the *abdomen* rather appears swelled outwards, and protuberant. Hysteric subjects are also affected with so piercing and incredible a cold in the region of the loins, that it may be perceived by laying the hand thereon, and does not abate upon applying warm cloths to it; and they often have a fixt acute pain in the top of the head, which is confined within a small compass, and is usually entitled the *clavus hystericus*; and abundance of persons perceive a kind of globe to ascend from the lower belly towards the *thorax*: all which symptoms never happen in the *hypochondriac disease*. Neither does fainting, and a difficult respiration, threatening suffocation of a sudden, along with so violent a strangulation of the *fauces*, occur so frequently in this distemper, as in the *hysteric passion*. And lastly, no *hypochondriacs* were ever judged to be dead, and intended to be interr'd; which hath been the case in *hysteric* subjects, as we learn from some histories worthy of credit.

We should not have laid so much stress on the difference between the two diseases, and the necessity of distinguishing them accurately, but for its great usefulness in practice. For the best remedies in the *hypochondriac disease* are vehement exercise, carminatives, spirituous and volatile medicines, stomachics and aromatics, stimulating neutral salts, mineral waters, solutive bitters, and especially chalybeates: but these rather do hurt in the *hysteric disease*, which is most relieved by bleeding, opiates, nitrous medicines, anti epileptics, coolers, drinking cold water and whey, and avoiding all hot things, not excepting wine.

The same author recommends *warm bathing* in the *hypochondriac disease* in the following terms.—But there is no case wherein this remedy (namely *warm bathing*) proves of greater service than in the hypochondriacal disease; which is not only a stubborn, but also a reigning evil, at this time, being commonly attended with a grievous train of symptoms, without intermission, and causing great perplexity to physicians, who have not hitherto discovered its perfect cure. To speak the truth, there is no better, or more effectual remedy, for relieving and eradicating this distemper, than a proper use of the *hot and cold mineral waters*. But here we must observe, that *bathing* in the purest, and lightest water, wonderfully second the internal use of *medicinal springs*. For those waters which are properest in drinking, as containing a considerable proportion of a heavy, earthy, and saline, or astringent, irony matter, are not so proper for the purpose of bathing, in this distemper, as the purer. This has been confirmed to me by long experience of the hot *Caroline* astringent spring. And hysterical women receive the same advantages from warm bathing, as hypochondriacal men.

posed than any other part of the body, but for reasons hereafter to be explained.

Appears
under nu-
merous
forms.

60. This disease is not more remarkable for its frequency, than for the numerous forms under which it appears, resembling most of the distempers wherewith mankind are afflicted. For in whatever part of the body it be seated, it immediately produces such symptoms as are peculiar thereto; so that unless the physician be a person of judgment and penetration, he will be mis-

To discover the reason of the noble effects of *warm bathing*, in these cases, we must first examine into the seat, the origin, the nature, and the symptoms of the hypochondriacal disorder: and when all things are considered, it certainly appears to reside in that nervous and membranous tube, wherein the aliment is digested, dissolved, and discharged; that is, in the stomach and intestines; the peristaltic motion whereof, which naturally consists in a reciprocal dilatation and contraction, is plainly disturbed, or even inverted. And this chiefly proceeds from certain spasmodic, and convulsive contractions; whereby, if the lower parts of the intestines are affected, especially when full, the excrements are not only detained in the tube, but flatulencies, or windy vapours, generated, and pent up; so as to rise, and violently distend the smaller guts and the stomach. And thus all the nervous parts, endowed with an exquisite sense, are, by what the ancients call, *consent*, drawn into a similar spasmodic motion; whence proceed that numerous train of symptoms, which afflict nearly all the parts of the body. If this disorder has only a transient cause, not seated in the substance of the *viscera*, it receives an easy cure by proper remedies. But if it also seizes upon the *viscera*, especially the *pancreas*, the liver, the spleen, or the mesentery; and the coats of the intestines be injured, and destroyed, a thorough cure is very hard to effect: for the case is rather exasperated, and at length sometimes rendered incurable, by a frequent change of physicians, and medicines, with which people in this distemper vainly amuse and deceive themselves. From hence every physician will perceive, that of all remedies, none is so efficacious as a warm, innocent fluid, properly used, both externally and internally, for restoring the natural tone, or tension of the intestinal tube; easing and relaxing the spasmodic contractions of these parts; and re-instating the inverted peristaltic motion; or directing it to its natural tendency downwards: For thus, by its agreeable warmth, it gently mollifies and relaxes the hardened and crisped fibres, recalls the blood and humours, that were before excluded, and causes a free circulation of the juices thro' the vessels of the intestines. See *new exper. on min. waters*, &c. p. 190, 191, 192.

It may not be amiss to observe, that hysteric and hypochondriac disorders are sometimes complicated in the same subject; some few instances whereof have fallen under my own observations, and others may be met with in practical writers; but this seldom or never happens in men.

taken,

taken, and suppose such symptoms to arise from some essential disease of this or that particular part, and not from the *hysteric passion*.

61. To exemplify this remark. Sometimes it attacks the head, and causes an *apoplexy*, which also terminates in an *hemiplegia*; exactly resembling that kind of *apoplexy*, which proves fatal to some aged and corpulent persons, and arises from an obstruction and compression of the nerves, occasioned by a copious phlegm contained in the cortical part of the brain. But the *apoplexy* in hysteric women seems to proceed from a very different cause; for it seizes them frequently after a difficult delivery, attended with a great loss of blood, or proceeds from some violent commotion of mind.

The *hysteric passion* sometimes resembles an *apoplexy*.

62. Sometimes it causes terrible convulsions, much like the epilepsy, along with a rising of the *abdomen* and *viscera* towards the throat, and such strong convulsive motions, that tho' the patient be otherwise rather weak, she can scarce be held by the attendants. And she talks wildly and unintelligibly, and beats her breast. This species of the disease, which is commonly entitled the *strangulation of the womb*, or *fits of the mother*, happens most frequently to such women as are of a very sanguine and robust constitution.

Sometimes an *epilepsy*.

63. Sometimes this disease attacks the external part of the head, between the *pericranium* and the *cranium*, and occasions violent pain, which continues fixed in one place, not exceeding the breadth of the thumb, and it is likewise accompanied with very violent vomiting. I call this species the *clavus hystericus*, which chiefly affects such as have the *green-sickness*.

Sometimes a vehement pain in the head, with excessive vomiting.

64. Sometimes it seizes the vital parts, and causes so violent a *palpitation of the heart*, that the patient is persuaded, those about her must needs hear the heart strike against the ribs. Slender and weakly women, that seem consumptive, and girls that have the *green-sickness*, are chiefly subject to this species.

Sometimes it causes a palpitation of the heart.

65. Sometimes it affects the lungs, causing an almost perpetual *dry cough*; and tho' it does not shake the breast so violently, yet the fits are more frequent, and the patient's senses are also disordered. But this species of the *hysteric cough* is very rare, and chiefly happens to women of a phlegmatic constitution.

Sometimes a dry cough.

Sometimes
a disorder
resembling
the *iliac*
passion.

66. Sometimes attacking the parts beneath the *scrobiculum-cordis* in a violent manner, it occasions extreme pain, like the *iliac passion*, and is attended with a copious vomiting of a certain green matter, nearly resembling what is usually called *porraceous bile*, and sometimes the matter is of an uncommon colour. And frequently after the pain and vomiting have continued several days, and greatly debilitated the patient, the fit is at length terminated by an universal *jaundice*. Moreover, the patient is so highly terrified, as to despair of recovering; and, as far as I have observed, this dejection or despondency as certainly accompanies this species of the hysteric passion, as either the pains or vomiting abovementioned. This kind chiefly attacks women of a lax texture of body, or those who have suffered greatly by being delivered of large children.

Sometimes
a disorder
resembling
a fit of the
stone.

67. Sometimes this disease seizes one of the kidneys, where, by the violent pain it occasions, it entirely resembles a *fit of the stone*, not only with respect to the kind of pain, and the part affected, but likewise by the violent vomiting wherewith it is accompanied, and the pain's extending thro' the whole duct of the *ureter*: so that it is hard to distinguish, whether the symptoms arise from the stone or an hysteric disorder: unless, perhaps, the woman's spirit having been depressed by some misfortune a little before the disorder came on, or the discharge of green matter by vomit, should shew that the symptoms are rather to be ascribed to an hysteric disorder than the stone. The bladder also is occasionally affected with this delusory symptom, which not only causes pain, but a suppression of urine, as if there was a stone, tho' there is none. This last species rarely happens, but the former more frequently. Both are accustomed to attack such women, as are greatly debilitated by frequent hysteric fits, and in a bad state of health.

Sometimes
it occasions
a continual
vomiting or
purging.

68. Sometimes seizing the stomach, it causes continual vomiting; and sometimes fixing in the intestines, occasions a *purging*; but both these symptoms are without pain, tho' the abovementioned green humour frequently appears in both. Such also as have been weakened by frequent hysteric fits, are chiefly subject to both these species.

69. Moreover, as this disease affects most of the internal parts, so likewise it sometimes attacks the external parts, and muscular flesh, sometimes causing pain, and sometimes a tumor in the FAUCES, *shoulders, hands, thighs, and legs*, in which kind the swelling which distends the legs is most remarkable. For whereas in dropical swellings these two particulars may always be observed, namely, (1) they increase towards night, and (2) pit for some time after being pressed by the finger; in this tumour the swelling is largest in the morning, and does not yield to the finger, or leave any mark behind it, and it generally only swells one of the legs. In other respects, if the magnitude and surface of it be observed, it differs so little from dropical tumours, that the patient can scarce be persuaded to think it otherwise (*p*).

Sometimes it attacks the external parts, causing a pain or tumour of the FAUCES, shoulders, &c.

70. The *teeth* also (which one would scarce believe) are subject to this disease, tho' free from the least cavity, and manifest defluxion that might cause pain, which nevertheless is not at all milder, of shorter continuance, or more easily curable. But the pains and swellings that affect the external parts, chiefly happen to such women, as are almost worn out by the long continuance and violence of hysteric fits.

Sometimes the *teeth*.

71. But the most frequent of all the tormenting symptoms of this disease, is a *pain of the back*, which generally accompanies even the slightest degree of it. The abovementioned pains likewise have this effect in common, that the part they affect cannot bear the touch after they are gone off, but remains tender and painful, as if it had been severely beaten; but this tenderness wears off by degrees.

Is generally accompanied with a *pain of the back*.

72. It is likewise well worth noting, that all these symptoms are preceded by a remarkable *coldness of the external parts*, which seldom goes off, before the fit ceases. And I have observed, that this coldness resembles that which is perceived in dead bodies, the pulse, notwithstanding, continuing regular. Whereto may be added, that most of the hysteric women that I have hitherto treated, have complained of a *lowness*, and (to

All its symptoms preceded by a remarkable *coldness of the outward parts*.

(*p*) I never once met with the *hysteric swelled leg* described by our author, and no physician that I have happened to converse with on this subject ever did; so that it is a very uncommon accident.

use their expression) a *sinking of the spirits*; which, by their pointing to the region of the lungs, to shew the part affected, seemed to be seated there. Lastly, it is generally known that hysteric women sometimes *laugh*, and sometimes *cry* excessively, without the least apparent provocation.

This disease generally attended with a copious evacuation of clear urine.

73. But amongst the symptoms accompanying this disease, the most peculiar and general one is the making great quantities of urine as clear as rock water; which, upon diligent enquiry, I find to be the distinguishing sign of those disorders which we call *hypochondriac* in men, and *hysteric* in women. And I have sometimes observed in men, that soon after having made urine of an amber colour, being suddenly seized with some extraordinary disturbance of mind, they have made a large quantity of clear water, with a continued violent stream, and remained indisposed till the urine came to its former colour, when the fit went off.

And sometimes with fetid, and highly acid eruptions.

74. Moreover, in *hysteric* and *hypochondriac* subjects, when the disease has been of long standing, they have fetid, and sometimes highly *acid eruptions*; after eating, tho' they eat moderately, according to the appetite, the digestive faculty being greatly impaired, and the juices vitiated.

And with a great disturbance of mind, and looseness of spirits.

75. But their unhappiness does not only proceed from a great indisposition of body, for the *mind* is still more disordered; it being the nature of this disease to be attended with an incurable *despair*; so that they cannot bear with patience to be told that there is any hopes at all of their recovery, easily imagining that they are liable to all the miseries that can befall mankind; and presaging the worst evils to themselves. Upon the least occasion also they indulge terror, anger, jealousy, distrust, and other hateful passions; and abhor joy, and hope, and cheerfulness, which, if they accidentally arise, as they seldom do, quickly fly away, and yet disturb the mind as much as the depressing passions do; so that they observe no mean in any thing, and are constant only to inconstancy. They love the same persons extravagantly at one time, and soon after hate them without a cause; this instant they propose doing one thing, and the next change their mind, and enter upon something contrary to it, but without finishing it; so unsettled is their mind, that they are never at rest.

What

What the Roman orators assert of the superstitious, agrees exactly with these melancholic persons. Sleep seems to be a relief from labour and inquietude, but from this many cares and fears arise; their dreams being ever accompanied with the representations of funerals and apparitions of their departed friends. And so much are they distempered in body and mind, that it seems as if this life were a purgatory, to expiate offences committed in a pre-existent state. Nor is this the case only in furious maniacs, but even in those, who, excepting these violent passions, are judicious persons, and for profoundness of thought, and solidity of speech, greatly excel those whose minds were never disturbed by these tormenting thoughts. So that the observation of *Aristotle* is just, who asserts that *melancholly persons are the most ingenious* (q).

76. But this very dreadful state of mind, which I have mentioned above, only attacks such as have been much and long afflicted with this disease, and are at length overcome thereby; especially if misfortunes, grief, care, hard study, and the like, along with an ill habit of body, have contributed thereto.

77. It would take up too much time to enumerate all the symptoms belonging to hysteric diseases; so much do they vary, and differ from each other. *Democritus*, therefore, in writing to *Hippocrates*, seems to have had reason to assert, though he mistook the cause of the disease, that the womb was the origin of six hundred evils, and innumerable calamities. Nor do they

(q) Of all the miseries that afflict human life, (says *Dr Cheyne* in the introduction to his *English malady*) and relate principally to the body, in this valley of tears, I think, nervous disorders, in their extreme and last degrees, are the most deplorable, and beyond all comparison the worst. It was the observation of a learned and judicious physician, that he had seen persons labouring under the most exquisite pains of *gout*, *stone*, *colic*, *cancer*, and all the other distempers that can tear the human machine, yet had he observed them all willing to prolong their wretched being, and scarce any ready to lay down cheerfully the load of clay (we will except those who were supernaturally supported) but such as laboured under a constant, internal anxiety, meaning those most sinking, suffocating, and strangling nervous disorders: it is truly the only misery almost, to be dreaded and avoided in life, if, by any means, it can possibly. Tho' other evils be burdens, yet an erected spirit may bear them: but when the supports are fallen, and cover the man with their ruins, the desolation is perfect.

only

only differ so greatly, but are so irregular likewise, that they cannot be comprehended under any uniform appearance, as is usual in other diseases: but are a kind of disorderly train of symptoms, so that it is a difficult task to write the history of this disease.

The external causes thereof.

78. The *procatarctic*, or *external causes* thereof are either violent motions of the body, or, more frequently, some great commotion of mind, occasioned by some sudden fit, either of anger, grief, terror, or the like passions. Upon this account, whenever I am consulted by women concerning any particular disorder, which cannot be accounted for on the common principles of investigating diseases, I always enquire, whether they are not chiefly attacked with it after fretting, or any disturbance of mind; and if they acknowledge this, I am well assured that the disease is to be ascribed to the tribe of disorders under consideration, especially if the diagnostic appears more evident by a copious evacuation of pale urine at certain times. But to these disturbances of mind, which are the usual causes of this disease, must be added, emptiness of the stomach, from long fasting, or immoderate evacuations, whether by bleeding too profusely, or giving too strong a vomit or purge (r).

Its internal and efficient causes, irregular motions of the animal spirits.

79. Having now given a full description of this disease, according to its common symptoms, we are next to consider the *internal efficient causes* thereof, so far as these can be discovered from all the circumstances which we have described, taken together. And, in my opinion, disorders, which we term hysteric in women, and hypochondriac in men, arise from *irregular motions of the animal spirits*, whence they are hurried with violence, and too copiously to a particular part, occasioning convulsions and pain, when they exert their force upon parts of delicate sensation; and destroying the functions of the respective organs which they enter in-

(r) This disease in general may be said to arise principally from weak nerves, and poor, thin, watery juices, whence the circulation is languid and slow, and the secretions and excretions imperfectly performed. Consequently, whatever tends to debilitate the nervous system, and impoverish the juices, may be enumerated amongst the external or manifest causes thereof; such as violent exercise, considerable commotions of mind however occasioned, emptiness, long fasting, watching, all immoderate evacuations, &c. See above, Par. 80.

to,

into, and of those also whence they came; both being highly injur'd by this unequal distribution, which quite perverts the œconomy of nature.

80. The origin and *antecedent cause*, of these irregular motions of the spirits, proceed from the *weakness* of their *texture*, whether it be natural or adventitious, whence they are easily dissipable upon the least accident, and their office perverted. For as the body is composed of parts which are manifest to the senses, so doubtless the mind consists in a regular frame or make of the spirits, which is the object of reason only. And this being so intimately united with the temperament of the body, is more or less disordered, according as the constituent parts thereof, given us by nature, are more or less firm. Hence women are more frequently affected with this disease than men, because kind nature has given them a finer and more delicate constitution of body, being designed for an easier life, and the pleasure of men, who were made robust that they might be able to cultivate the earth, hunt and kill wild beasts for food, and the like.

And these proceed from their weak texture.

81. But that the irregular motion of the spirits is the cause of this disease, is fully manifest from the symptoms just enumerated; I will only mention the principal, beginning with that remarkable one, the *strangulation of the womb*, or *fits of the mother*. In this case the spirits being copiously collected in the lower belly, and rushing with violence to the *fauces*, occasion convulsions in all the parts through which they pass, puffing up the belly like a ball; which however is only a kind of convulsion of the convulsed parts, that cannot be suppress'd without using violent means. The external parts and the flesh, in the mean time, being in great measure destitute of spirits, which are carried another way, frequently become so cold, both in this and all the other kinds of hysterical disorders, that dead bodies are not colder, whilst the pulse remains in its natural state; this symptom however is not dangerous, unless it be owing to some preceding excessive evacuation.

This opinion illustrated and exemplified by the strangulation of the womb.

82. The same may be said of that violent kind of this disorder, which in outward appearance resembles the *bilious colic*, or *iliac passion*, wherein the patient is afflicted with a very violent pain, in the parts contiguous to the *scrobiculum cordis*, along with a copious discharge

And the disorder resembling the bilious colic or iliac passion.

charge of green matter, by vomit; which symptoms proceeds only from a forcible impulse of the spirits stagnating in those parts, occasioning the pain, convulsion, and loss of their functions.

Whence the
green colour
of the
matters
discharged
upwards
and downwards

83 For it is not immediately to be concluded, because the discharges upwards and downwards, in this disorder, are sometimes *green*, that it is seated in the fluids, or that the violent pain proceeds from the acrimony of some humour vellicating the parts to which it adheres, which for this reason we should esteem the cause of the disease, and therefore judge that it ought to be thoroughly expelled by emetics and cathartics. For it appears that the sickness, which seizes those who go to sea, occasioned by the agitation of the animal spirits from the motion of the ship, is attended in healthy subjects with a vomiting of green matter, tho' but half an hour before no such bile, as we term *porraceous*, existed in the body. Again, do not children in convulsive fits, in which the animal spirits are principally disordered, evacuate a matter of the same colour upwards and downwards? Whereto must be subjoined, what is manifest from daily experience, *viz.* that tho' such women and children should be thoroughly emptied by repeated purging, yet the greenness would still appear in the discharges upwards and downwards. Moreover the green matter encreases upon the frequent use either of emetics, or cathartics; because both these evacuations cause a greater disturbance of the animal spirits; which, I cannot tell how, quite destroys the ferment of those parts, or by the violence of the convulsions forces some juice of a strange nature into the stomach and intestines, which has the property of tinging the juices of this colour. The Chemists, indeed, tho' they cannot furnish us with better remedies, than may be obtained from pharmacy, are, however, able to gratify our curiosity, by exhibiting two equally clear transparent liquors, which upon mixture immediately become of some deep colour, as if there were conjuration in the case (*s*). But, in reality, the consideration of colours is so insignificant and variable, that no certainty can be had from them, with respect to the nature of those bodies

(*s*) If the reader be desirous of having some instances of this, he will find several in *Dr Shaw's chymical lectures*, p. 171, &c. and in *Peole's chymical vade mecum*, p. 378, &c.

wherein they appear: for it does not more necessarily follow, that whatever is of a green colour is acrid, than that all acrid things are green. Upon the whole 'tis apparent, that the violent pain which almost destroys such as are seized with the hysteric colic, and the evacuation of the green matter, proceeds entirely from the violent rushing of the spirits to the parts (*t*) beneath the *Scrobiculum cordis*, and contracting them by convulsions.

84. To this irregular motion of the spirits the *clavus hystericus*

(*t*) The bile says the acute *Huxham*, does not turn green, unless it be mix'd with an acid, and the stronger the acid, the darker greenness arises, approaching nearly to blackness, and the greater is the coagulation; so that the mixture in colour and consistence nearly resembles ink poured on soot: and this appears more manifest upon making an experiment with human bile, which is perhaps more alkaline, than that of any other animal. This seems to me to be the most common origin of black and green bile; and consequently those persons err, who believe that these kinds of bile are only form'd in the passages, since anatomists frequently find both black and green or *porraceous* bile in the gall-bladder and biliary conduits.

Experience confirms this reasoning, without which the most plausible theory is vain; thus I have often been astonish'd to see a *porraceous* and a black bile (which is abundantly more acrimonious than that) thrown up by vomit, which corroded metals, and boil'd up on the ground, like spirit of vitriol dropt thereon; and so austerely acid, that it set the teeth strongly on edge, and excoriated the throat. Are not these eminent proofs of acidity? Spirit of vitriol scarce gives greater. I treated a sailor some time ago, who upon his return from *Virginia*, being seiz'd at first with gripings, and afterwards with violent convulsions and a delirium, vomited a large quantity of deep green, and sometimes a very black and acid bile. The attendants having introduced a silver spoon into his mouth, during his convulsions, that he might not bite his tongue, it in a moment turn'd as black as if it had been stained with spirit of nitre. By the way, it must be observed, that this man being a great lover of juice of lemons, drank it copiously, in most of his liquors. And I must likewise add, that I have found such persons afflicted with a black, or *porraceous* bile who had frequently laboured under a disorder in the stomach, occasioned by a corroding, and very pungent acid. I remember about fifteen years since, that having ordered a young gentleman to be bled, who was a great lover of acids and cyder, and on this account frequently seiz'd with *colic* and *rheumatic* pains, I was amaz'd to find the *serum* as green, as the juice of leeks. See our second observation in the *Philosophical Transactions*. No. 382.

I am indeed well aware that the excellent *Sydenham* holds, that *porraceous* or green bile proceeds solely from the irregular motion of the spirits: but if this were true, such bile would be

The *clavus hystericus* is to be ascrib'd in which all the spirits are collected in a certain point of the *pericranium*, occasioning such a kind of pain, as if a nail were driven into the head, and attended with a copious discharge of green matter by vomit. And this contraction of all the spirits, into a kind of point, differs little from the collection of the rays of the sun by a burning glass; for as these burn by their united force, so those for the same reason cause a pain; by tearing the membranes with united violence.

Also the
copious
discharge
of limpid
urine.

'85. And from the same inordinate motion of the spirits, which disturbs the mixture of the blood, arises the voiding of a *copious* clear *urine*; which is a frequent symptom in hysteric and hypochondriac disorders; for, when the due circulation of the blood is often disturbed, the *serum* is hurried to the urinary passages before it has remained long enough in the body, to be impregnated with those saline particles that render it of a straw colour (*u*). We have frequent instances of this, in those
who

generated upon every extraordinary commotion of mind or vehement agitation of the spirits, which however seldom happens. The passions of the mind do indeed agitate and force out the bile into the *viscera*, where, if it meets with an acid humour, it turns green, in which state it is often vomited up, in great commotions of mind. But the same person who from a vehement commotion of mind now vomits green bile, will perhaps soon after, from a more violent disturbance vomit an entirely yellow bile. And thus a person at sea throws up a very green bile one day, who, nevertheless, the next day may vomit a yellow one, and *vice versa*. The bile when out, of the body, does not turn green with violent shaking, and therefore scarce turns green in the body without the admixture of an acid, I speak my thoughts. A vehement agitation of the spirits, or immoderate passion of the mind chiefly hurts digestion, so that the chyle turns sour in the stomach, and gives a greenness to the bile, which flows into this bowel, and is mix'd therewith: and as long as the stomach continues weak, the food taken in is ill digested, whence both it and the intestines may be overcharged with an acid phlegm for a considerable time. See *Huxham de morb. col. danmon.* p. 19, 20, 21, 22.

That human bile, and the bile of animals turns green and afterwards black, by mixing and digesting it with acids, is verified from some experiments of *Bagliivi*, which tend to confirm what has been advanced above. See *Bagliivi, op.* page 436, *seq.*

(*u*) This symptom should rather seem to proceed from certain spasmodic constrictions of the vessels, and a tendency of the *Serum* to the urinary passages, accompanied perhaps with a dissolution or an imperfect mixture of the constituent parts of the blood, or a poor and watery state thereof.

who drink too freely, especially of thin and attenuating liquors, whose urine immediately becomes transparent thereupon: in which case the blood being stock'd with an over proportion of *serum*, which it cannot retain, discharges it quite clear, and not yet coloured by the juices, by reason of its too short stay in the body.

86. Three years since a nobleman sent for me, who seemed to be afflicted with an *hypochondriac colic*, differing little from an *iliac passion*, attended with pain, and immoderate vomitings, which he had long laboured under, so that he was in a manner worn out. During the whole course of the disease, whenever he was worst, I observed that he always voided a clear colourless urine, but upon the abatement of the disorder, it inclined to its natural straw colour. Visiting him one day, I found his urine that was made at three several times, and kept apart, of a straw colour, and he was very chearful, had an appetite, and thought of eating something of easy digestion; but some person coming in that instant, and putting him into a violent passion, he immediately thereupon made a large quantity of very clear water.

Illustrated
by a case.

87. Possibly the spitting, which is so common a symptom in hysteric subjects, arises from the spirits, disturbing the mixture of the blood: they spit a thin *saliva* for many weeks, as if it were produced by *mercurial unction*; for during this commotion of the blood, which renders it unfit to perform the excretions in the natural way, the *serum* accidentally taking this contrary course, is not discharged by the kidneys according to the laws of nature, but derived to the glands from the extremities of the arteries, and empties itself by the salival ducts in the form of *saliva*. The same may be said of those profuse night sweats, which sometimes seize hysteric women; and proceed only from the ill state of the *serum* of the blood, which disposes it to be thrown on the habit, from the irregular motion of the blood just mentioned.

The sputa-
tion in hy-
stERIC sub-
jects from
the same
cause.

88. It is manifest also that the *coldness* of the external parts, which often happens in hysteric disorders, arises from the spirits forsaking their station, and crowding too much to some particular part; and doubtless both the *crying* and *laughing* fits, which frequently affect hysteric women without any provocation, are caused

And the
coldness of
the outward
parts.

by the violent action of the animal spirits upon the organs which perform these animal functions.

Mensometimes
times sub-
ject to fits
of weeping;
exemplified
in a
case like-
wise.

89. And, by the way, I must observe that men are sometimes subject to such *crying fits*, tho' rarely. I was called not long since to an ingenious gentleman, who had recovered of a fever but a few days before; he employed another physician, who had blooded and purged him thrice, and forbid him the use of flesh. When I came, and found him up, and heard him talk sensibly on some subjects, I ask'd why I was sent for; to which one of his friends replied, If I would have a little patience I should be satisfied. Accordingly, sitting down, and entering into discourse with the patient, I immediately perceived that his under lip was thrust outward, and in frequent motion (as it happens to fretful children, who pout before they cry) which was succeeded by the most violent fit of crying I had ever seen, attended with deep and almost convulsive sighs; but it soon went off. I conceived that this disorder proceeded from an irregular motion of the spirits, occasioned in part by the long continuance of the disease, and partly by the evacuations that were required in order to the cure; partly also by emptiness, and the abstinence from flesh, which the physician had ordered to be continued for some days after his recovery to prevent a relapse. I maintain'd that he was in no danger of a fever, and that his disorder proceeded wholly from emptiness; and therefore ordered him a roast chicken for dinner, and advised him to drink wine moderately at his meals; which being complied with, and he continuing to eat flesh sparingly, his disorder left him.

The other
symptoms
of the hys-
teric dis-
ease, caus'd
likewise by
the irregu-
lar motion
of the spi-
rits.

90. To conclude (not to mention the other concomitant symptoms of this disease) the disturbance and variable indisposition of body and mind, which prevail in *hysteric* and *hypochondriac* subjects, arise from the same *inordinate motion of the spirits*: for such persons not having that firmness of spirits which the robust, and those who never want vigorous spirits, always possess, cannot bear misfortunes, but being soon moved by passion or pain, are as much affected as those whose minds are originally weak, or rendered so by a long train of disorders, or their long continuance. For the strength and steadiness of the mind, during its union with the body, chiefly depends on the firmness
of

of the spirits which are subservient thereto (*w*) which are in reality composed of the finest particles of matter, and border upon immaterial, or spiritual beings. And as the frame of the mind, if I may use the expression, is much more curious and artful than the structure of the body; as consisting in an harmony of the most excellent, and almost divine faculties; so if the constitution be any way disordered the evil must be so much the greater, the more excellent and delicate the workmanship was, whilst it remained entire. And this indeed is the case of those miserable dejected persons we have described, which the positive command of the proudest *Stoic* would not sooner relieve, than the tooth-ach would be prevented by a person's firmly resolving not to suffer his teeth to ake.

91. I conceive now that it is sufficiently manifest And not that all the kinds of this disease are to be ascribed to a by malignant disorder of the animal spirits; and not to the ascent of ^{nant effluvia} from corrupted vapours from corrupted *semen*, or *menstruous* ^{semen, or} *blood*, to the parts affected, as some authors have asserted; or, as others affirm, to a latent depravity of the ^{menstruous} *juices*, or a collection of acrid humours. For that the ^{blood, &c.} cause of this disease does not lie conceal'd in any moribific matter, appears evident from this single instance: If a slender weak woman, otherwise usually healthy, happens by mistake to be debilitated and exhausted by a strong vomit or purgative, she will infallibly be seized with some one of the concomitant symptoms of this disease; which would rather have been carried off than occasioned thereby, if the cause thereof had been contained in an humour. The same may be said of too great a loss of blood, whether it be taken away by bleeding, flow immoderately after delivery, or be diminished by inanition and too long abstinence from flesh; all which would rather be preventive than pro-

(*w*) 'Tis not easy to comprehend what is meant here by *the firmness of the spirits*, it being a property that ill agrees with their extreme subtilty and volatility; to which may be added that the idea we have of them is by no means clear and satisfactory, in so much that some eminent men have denied their existence. The strength and steadiness of the mind, to use our author's phrase, should seem to depend principally on the structure of the solids, which being sufficiently elastic and open, the operations of the mind, in which consists its strength, will be performed with vigour and alertness.

ductive of hysteric diseases, if the cause thereof were included in some kind of matter; whereas, on the contrary, they are never more certainly occasioned than by these evacuations.

The original cause thereof not in the fluids tho' it corrupts them in time.

92. But tho' it abundantly appears that the original cause of this disease is not seated in the *fluid*; it must nevertheless be owned, which indeed is fact, that the irregular motion of the spirits, whence it proceeds, generates putrid humours in the body; because the function both of those parts which suffer from the violent action of the spirits upon them, and those which are deprived thereof, are quite destroyed. And most of these being a kind of *separatory organs* or strainers, designed for the reception of the excrementitious parts of the blood, it follows that if their functions be any way injured, abundance of the impurities must needs be collected in the body, which had been expelled, and consequently the whole mass of blood rendered more pure, provided every organ had done its office, which would not have been wanting, if each had received its proper supply of spirits. To this cause I ascribe remarkable *cachexies*, *loss of appetite*, and the *green-sickness* in young women (which latter is doubtless a species of hysteric disorders) and all the numerous evils which trouble those who have been long afflicted with this disease; for all these proceed from corrupt juices collected in the blood, and derived thence to various organs. Of this kind is a *dropsy of the womb* in women who have long laboured under hysteric disorders, proceeding from a translation of vitiated juices from the blood to these organs; which impairs their functions, whence they first become sterile, and the tone of the parts is quite destroyed; and afterwards *sanies* and *serum* are generated, which not only distend the *ovaries* and *ova* considerably, but insinuating themselves into the interstices [of the teguments, greatly swell them, as appears upon dissecting the bodies of such as perish by this disease. In the mean time the hysteric disposition is the primary cause of these and other similar humours, tho' they are not of the same kind with it.

Instanced in a dropsy of the womb.

And a quartan.

93. In the same manner in a *quartan*, wherewith a person in perfect health may be seized, by residing two three days in moist and marshy places; some spirituous
venom

venom of this disease is first communicated to the blood, which remaining a considerable time, and the animal oeconomy being at length injured, taints all the juices of the body, and quite alters their nature; whence the patient, especially if he be in the decline of life, is disposed to cachexies and other disorders, which succeed inveterate intermittents. And yet these intermittents are not to be cured by those remedies which are adapted to purge off such humours, but by such *specifics* as are immediately curative of these disorders.

94. From what has been advanced, it seems evident to me, that the chief curative indication in this disease, is that which directs the *strengthening the blood*, which is the source and origin of the spirits; this being effected, the invigorated spirits may preserve that order which suits the due order of the whole and every part of the body. But as this disorder of the spirits may by its long continuance have vitiated the juices, it will be proper first to lessen their quantity by *bleeding and purging*, if the patient be not too weak, before we proceed to strengthen the blood; which can scarce be done, so long as we are obstructed by abundance of foul humours lying in the way.

The chief curative indication is to strengthen the blood.

But as the pain, vomiting and purging are sometimes so violent, that they cannot safely be neglected, till we have answered the primary intention of strengthening the blood, we are to disregard the cause for a time, and begin the cure by quieting the symptoms, for that purpose exhibiting an opiate; after which we must endeavour to mend and strengthen the spirits, the weakness of them being the cause of the disease. And as experience shews that there are many fetid medicines, which are adapted to compose the tumultuary motion of the spirits, and keep them in their proper places, which for this reason are entitled *hysterics*, recourse must be had to them, whenever such intentions are to be answered (x).

Bleeding and purging when to be premised.

When an opiate is to be exhibited.

Fetid medicines excellent here.

95. With

(x) For a present relief on extreme lowness (says Dr Cheyne in his method of cure in diseases of the body and mind, p. 154.) oppression or anxiety, for a *filip*, or *spur*, I think nothing can exceed a tincture of true *asa foetida*, and *wood foot*, made on compound pceony water, with a tincture of *castor* and *jal volatile*, and a few drops of *oleum succini* added to it.—With this intention only, these perspiratory, hot, and forcing medicines

Whence
bleeding
and purg-
ing in-
crease the
disorder.

95. With this view, I first bleed in the arm, and afterwards give a cathartic for three or four mornings successively. During these evacuations the patient seems to grow rather worse than better; because they increase the disorder by the hurry they occasion, which I take care to inform her of at first, that she may not be dejected; it being the nature of this disease to sink the spirits (y) Be this as it will, the primary intention cannot be conveniently answered, without carrying off a part of those foul humours, which we suppose to have been collected by the long continuance of the disease.

cines ought to be given, and no hope or expectation is to be put in them further; but the whole stress of the cure is to be put in *alteratives* and diet: for such *stimulating medicines* then become of wonderful present benefit; but they ought to be laid aside when any relief is got by them, till the next *attack*, and the general method and medicines pursued, otherwise their efficacy by frequent *use* will be worn out. As to their effect on any sudden attack of lowness, oppression, anxiety, or *nervous dysprææ* (if a sickness at stomach is not, as it mostly is, the case, and then they ought to be taken in some cordial, and afterwards some *stomach purge* ought to succeed, or a *vomit* should be permitted, if time allows) they, as all the *eastern gums*, *feetids*, and *volatiles*, force the perspiration for a short time, and drive the viscid juices to the circumference, and by their *actual* heat, melt perhaps the *gelatin serum* in the capillaries, as fire melts *jelly of hartshorn*; for there can be no virtue in soot, but from the actual fire lodged in it, or from its *acid oil*; the one of which melts the *gelatin serum*, while the other vellicates the solids to force on the languishing *circulation*, which makes it of more present efficacy than even *asa fetida* itself; and the *eastern gums* alone, which have shut up in them *solar* heat, or fire, or the matter (perhaps) that makes the rays or fluid of the *sun's* heat. Of this class also are the *volatile salts*, which, I think, on this consideration, are preferable to the *eastern gums*. The *gums* are solar rays included in a viscous *balsam*; *soot* and *volatile salts* are culinary heat join'd to an acid; and hence alone the *philosophy* of their operation and effects is to be deduc'd; for there is no material difference, but in subtilty, between *solar* and *culinary* heat.

(y) If this disease proceeds from a weakness of the spirits and the poorness of the juices, as our author seems to think, bleeding and purging must doubtless be detrimental, inasmuch as they tend rather to encrease the cause, than relieve the complaint. In case of exhaustion and debility, 'tis manifest that neither bleeding nor purging should be used, but if there be a fulness of blood, and the fits be violent, recourse may be had to them with advantage. 'Tis observable that some hysterick women cannot bear the gentlest purgatives, or glysters, but are seiz'd with a lowness of spirits as often as they have only a single loose stool. See the conclusion of par. 96.

96. After these evacuations, in order to strengthen the blood and the spirits proceeding therefrom, I prescribe some *chalybeate* medicine to be taken for thirty days; this being as effectual a remedy as can be given in this case: for it impregnates the vapid and languid mass of blood with a certain volatile ferment, whereby the drooping spirits are rouzed and revived. And this is manifest upon administering steel in the *green-sickness*; for it evidently raises and quickens the pulse, heats the external parts, and changes the pale colour of the face to a florid red. But it must be noted here, that bleeding and purging are not always to be used before *chalybeates*; for in case the patient be extremely debilitated and almost worn out by the continuance of the disease, they may and ought to be omitted, and we are to begin with steel. This is a caution well worth observing.

Some *chalybeates* to be taken afterwards for thirty days

Bleeding and purging not always to be us'd before exhibiting *chalybeates*.

97. Steel, in my opinion, is best given in substance; and as I have never found or heard that it injured any one, who us'd it in this manner, so, much experience hath convinced me that it cures with more expedition and certainty than any of the common preparations thereof (z). For officious chemists rather lessen than improve the virtues of this and other excellent medicines, by their method of preparing them. I have likewise been informed (which if it be true, will much strengthen our assertion) that the crude ore is more efficacious in curing diseases, than iron which has been refined by fusion; but for the truth of this I have only the author's word, not being certify'd of it from my own experience. This, however, I certainly know, that all the best remedies, hitherto discover'd, owe their principal virtues to nature; for which reason grateful antiquity termed them the workmanship of the supreme being, and not of man. But that an excellent medicine may be productive of surprizing effects, by its native goodness and efficacy, in whatever form it be taken, is plain from the *bark* and *opium*: nor does the skill of a physician

Steel best given in substance.

(z) Of this sentiment is *Bagilvy Hoffman*, and many other great men. The operations of steel medicines may be promoted, and they may be prevented from proving mischievous, by using *warm bathing* between whiles; whereby the offending humours are the better prepared for dislodgement and exclusion. See *new experiments, &c. upon mineral waters*. Translated by Dr Shaw, p. 195.

physician appear so manifest in preparing, as in chusing and adapting those remedies which nature hath prepared with her own fire, and abundantly supplies. All we have to do, therefore, is to reduce medicines to such a form, that their substance, or virtues may be more effectually communicated to the body, which we are sufficiently able to perform. Next to steel in substance, I prefer the syrup thereof, which is prepared by infusing filings of steel or iron in *rhenish* wine without fire, till it be sufficiently impregnated therewith; and afterwards straining it off, and with a sufficient quantity of sugar boiling it to the consistence of a syrup. (a)

Purgatives
why not
to be given,
during a
course of
chaly-
beates, in
this disease

98. I do not interpose cathartics at set times during a course of *chalybeates*, because they seem to destroy the effects of steel both in hysteric and hypochondriac disorders. For when I chiefly propose to quiet the spirits, and restore and strengthen their frame, the gentlest purgative does, in one day, undo all that I had been able to perform by the use of steel for a week before; and thus by destroying the effects of the medicine, and exhibiting it afresh, I trifle with myself and patient both. And doubtless this practice of purging between times, which obtains in the use of the *chalybeate* waters, renders them less efficacious. I am well-aware, however, that some persons have been cured, not only tho' purgatives have been interposed, but notwithstanding they have been given daily along with steel; but the success here is rather to be ascrib'd to the remarkable virtue of the steel, than to the skill of the physician: for if purgatives

(a) *Quincy* in his dispensatory, under the article of syrup of steel, justly observes that the syrup prepared in this manner is very apt to candy, because the more spirituous any menstruum is, the less it is suited to dissolve and suspend sugar: but he has not shewn a better method of making it, whether it be that he knew none, or thought the medicine not worth his notice. It cannot indeed be taken in a sufficient quantity to do great service, by reason of the sugar which helps to clogg it, and render it disagreeable to some palates, and too heavy for some stomachs. However as it may be an assistant occasionally in prescription, we shall give the manner of making it to the best advantage. as 'tis delivered by *Fuller* in his *pharmacopœia domestica* or family dispensatory.

Take of the true salt of steel, reduced to powder one ounce; dissolve it in thirty two ounces of clear water, and set it by till the yellow fœces be fallen to the bottom; then pour off the clear liquor carefully, and dissolve therein, without boiling, two ounces of gum arabic, and thirty two ounces of fine sugar.

purgatives had been omitted, the cure would have been sooner compleated. (b)

99. Moreover, I cannot conceive what benefit can accrue from so frequent a repetition of cathartics, in several other diseases besides that under consideration: for tho' it must be own'd that they clear the intestines of fowl matters, and sometimes also in some measure expel ill humours contained in the blood; yet on the contrary, it is as certain, that a frequent repetition of them in weak persons, especially if they be young, proves very detrimental; because a large quantity of humours is thereby carried to the intestines, where they occasion preternatural fermentations, whence swellings arise in the lower belly, which increase daily in proportion to the frequency of purging, and at length these parts, thro' their weakness and a defect of natural heat (being in a manner oppress'd with a load of humours) soon waste and putrify. And sometimes also the function of the *viscera*; being destroyed by the causes just mentioned, hard tumours, resembling the king's evil, and swellings of this kind, arise in the mesentery, and at length occasion death. For these reasons, I judge it safest in children, after a few general evacuations, to endeavour

Mischief
of frequent
purging
in other
diseases
likewise.

(b) Our author is doubtless right in condemning purgatives in general, during a course of steel-waters; but such cases may happen as may require purging to be interposed between times, so that this is to be understood with due limitation. To promote the operation of them, and prevent them from having any ill effect, it will be convenient to ride on horseback, or use some other proper exercise at suitable times. Correctives or additional alterative remedies of different kinds, suitable to the case, may frequently be used to advantage, as assistants in the cure [c]

(c) Sydenham seem'd to doubt (as Dr Cheyne observes in his *English malady*) whether purgatives ought to be join'd with *chalybeates* in the same course; but that can be no difficulty to those who have understood what has been before said, or are well acquainted with true philosophy, and the animal *æconomy*. For the purgatives are either simply design'd (in such a case) to cleanse the *primæ viæ*, or to fuse and thin the blood: in the first case they are absolutely necessary, and in the second more so, if the *first intention* has not been fully pursued before, as we find by *Lower's* bitter tincture, especially when a purgative and chalybeate with the bark is combined, which succeeds wonderfully in such cases, where the habit is pretty full, and the solids not much relax'd. But a long course of *chalybeate* mineral waters is still the most effectual for the purpose; *Spaw*, *Pymont*, or *Tunbridge*, in the hot weather, and *Bath* in the temperate and cold weather.

endeavour to strengthen the blood and *viscera*; which which may be effected by canary alone, or by infusing strengthening herbs therein; provided a few spoonfuls of it be given morning and night, in proportion to the age of the patient, and the use of it continued for a sufficient space of time. But as external medicines easily penetrate the tender bodies of children, and consequently communicate all their virtue to the blood whatever it be, it is proper in swellings of the *abdomen*, whether they proceed from scrophulous disorders, or the genuine rickets, to have recourse to liniments, that may strengthen the blood and *viscera*, and remove any morbid taint wherewith they are affected.

A strengthening liniment.

Take of the leaves of common wormwood, the lesser centaury, white hore-bound, germander, ground-pine, scordium, common calamint, feverfew, meadow saxifrage, St John's wort, wild thyme, golden rod, mint, sage, rue, carduus benedictus, penny royal, southernwood, camomile, tansy, lilly of the valley, all fresh gathered and cut small, of each one handfull; hog's lard, four pounds; sheeps-suet, two pounds; claret, a quart; infuse them together in an earthen vessel upon hot ashes for twelve hours; then boil them till the aqueous moisture is exhaled, and press out the ointment. Let the abdomen, hypochondria, and armpits be anointed therewith morning and night, for thirty or forty days running.

Repeated purging requisite in swellings of the *abdomen* in children, after inveterate intermittents. But not in the genuine rickets.

100. But it must be further observed with respect to the *rickets*, that in such swellings as formerly affected the *abdomen* in children, after inveterate intermittents, and resembled the true rickets, repeated purging seem'd to be indicated; for before the use of the bark intermittents continued a long time, and deposited a sediment, which occasioned such swellings, and hence they could only be removed by frequent purging. But in the genuine rickets purging must not be repeated more than once or twice at most, before begining a course of alteratives: and whilst the parts affected are anointed let the wine above mentioned be taken, or, if it can be done, let the child use beer for his common drink, wherein a sufficient quantity of all, or several of the aforementioned herbs are suffered to stand in infusion. Lastly, this observation deserves to be carefully noted, because

because I am well assured that many children have been destroyed by the frequent repetition of cathartics, which perhaps the swelling of the belly seem'd to demand. (d) But this by way of digression.

101. If

(d) The rickets is only an unequal distribution of the nutritious juices, whence some parts wear away for want of due nourishment, and others increase in bulk by being supplied too copiously therewith, and a distortion of the spine, and a considerable incurvation of the bones are likewise occasioned.

It is a new distemper, and appeared not in our own nation till towards the middle of the last century; but afterwards spread throughout the rest of *Europe*. It discovers itself chiefly by the following signs.

It appears first in the ninth month of the child's age, or later, and by degrees several parts of the body become disproportioned, the skin grows lax, and the *abdomen* flaccid, the muscles wear away, the joints of the hands, arms, knees, and feet grow large and bones too weak to support the body, and frequently crooked, along with the spine; whence the child walks with difficulty, and often loses the use of his feet entirely. And now the jugular arteries and carotids swell, the head grows large and cannot be held still, by reason of the flaccidness of the neck which supports it. The child is more sensible than children ordinary are at that age, the *thorax* is strait, the *sternum* rises in a point, and the extremities of the ribs are knotty. At length, the disease encreasing, it is accompanied with a slow fever, a cough, difficult respiration, and other symptoms, which continue during life. It should however be carefully remember'd that there are different species of the *rickets*, and that it lasts longer, and goes off sooner, not producing the same symptoms in all subjects, but afflicting some more, and others less severely.

Upon dissecting the bodies of such as have died of this disease, the liver in some has been found to be larger than it is in its natural state, and also schirrous, and adhering to the diaphragm, the glands of the mesentery indurated, and the *pancreas* obstructed: in others, the lungs have been found sticking to the *pleura*, and back, and either livid, or much impoistulated: and in others the *pericardium* has been found full of water. But several curious anatomists, as *Glisson*, and *Bonetus*, and *Heister*, among the moderns, almost unanimously affirm that the top of the spinal marrow is uncommonly hard and obstructed, the cavity between the *dura* and *pia mater* full of water, the brain large, and the carotids and jugular veins less than the arteries.

The proximate cause of this disease should seem to consist in a stoppage of the free influx of the nervous fluid into the spinal marrow, from the compression or obstruction of this part, whence all those parts which receive nerves therefrom cannot be supplied with nourishment, and those on the contrary, which have their vessels open, and admit a sufficient quantity of nutritious juice, receive too much. Thus anatomy shews that the head of a rickety child receives more nourishment,

An objecti
on to the
filings of
steel
answered.

101. If it be objected that the filings of steel may stick to the bowels, and do mischief, unless cathartics be exhibited at proper intervals; I answer, first, that I never

nourishment, because the nutritious lymph cannot enter the spinal marrow, and therefore not only encreases in bulk, but occasions the face to be fresh-coloured and florid.

The bones come to be incurvated, and deformed with knotty excrescencies about their *epiphyses*, because the muscles and ligaments which join them together are unequally nourished, the aliment being conveyed in greater plenty thro' the arteries to the bones themselves; whence their extremities, which are generally of a soft, cartilaginous and yielding texture in children, are distended from the small resistance they make, and become knotty: And when the aliment continues to be so irregularly applied, the bones increase continually in bulk, and the muscles, on the contrary, wear away and grow shorter, whence their extension is obstructed by the connecting muscles, and they grow bow'd or crooked, and the more so, by reason of their softness and flexibility at this age.

The distortion of the spine is occasioned solely by the laxness and weak tone of the bony processes, cartilages, ligaments, and muscles, which join the bones together; whence these parts by an incurvated situation separate so much from each other respectively, and are so much distended, that they cannot come together again, and be restored to their original state.

The mediate cause of this disease is the thickness, or viscosity of the juices, which being separated from a viscid blood, and carried to the spinal marrow, compress, or block up its conduits, or pores, and thus prevent the free influx of the subtle nervous fluid into this part, and its further distribution from hence thro' the nerves.

The remote causes are whatever hinders digestion, and generates a thick viscid chyle, altogether unfit for nutrition.

But the air which surrounds the bodies of children is principally productive of this distemper, being cold, cloudy and full of heterogeneous exhalations, which partly by debilitating the tone of the skin, retains the phlegmatic matters in the habit, and partly by relaxing the lungs, prevents the intimate mixture of the blood therein, and its regular distribution throughout the body likewise. We have a manifest proof of this from the air of *London*, which appears to be well adapted to occasion and feed this disease, both from the exhalations it receives from the circumfluent ocean, and certain mineral particles exhaled from the pit-coal, which is burnt there in great plenty. It ought not therefore to seem strange, that this distemper, from the same cause, is common in marshy and maritime places, and likewise in spring and autumn, and that there are such numbers of ricketty children at *Halle* in *Saxony*; where the atmosphere is very moist, from the saline exhalations, and the smoke of pit coal.

Moreover I scruple not to assert, that the ill custom which some women have of carrying their children often in their arms contributes to the stagnation of the fluids in the spinal
marrow

mours of those parts, will at length be evacuated therewith, than when they are agitated by purgatives, which occasion unusual costiveness, gripings and contractions of the intestines, whence the particles of the steel, which adhere to their coats, may enter deeper into them.

Hysteric medicines to be join'd with chalybeates.

102. During a course of chalybeates, in order to strengthen the blood and animal spirits, hysteric medicines are to be administered in such manner and form, as are most agreeable to the patient; tho' if they can be taken in a *solid* form, they will more effectually keep the spirits in their function and place, than in a *liquid* one, viz. in decoction, or infusion; for the substance itself affects the stomach longer with its taste, and communicates its virtue more intimately to the body.

The process described.

103. Upon the whole, in order to answer all the indications above enumerated, I usually direct the following few common and simple remedies with success. Let eight ounces of blood be taken from the right arm.

A fetid plaister.

Take of galbanum, dissolv'd in tincture of castor, and strain'd, three drams, tacamahac, two drams; mix them together for a plaister to be applied to the navel. Next morning let the patient begin with the following pills.

Take of the greater-purging pills pil. cochizæ, two scruples; castor powder'd, two grains; balsam of Peru, four drops; make

Great care should be had to join a suitable regimen with the process us'd for the cure, which consists in keeping the child from all flatulent, viscid, and difficultly digestible aliment, giving him frequently small chickes and veal broth wherein opening roots and craw-fish have been boiled. His drink should be thin liquors, and whilst he sucks, good thin milk, not neglecting proper exercise at the same time. In case of costiveness a gentle laxative, or a glyster may be given. But if the disease be occasioned, or fed by some disorder of the nurse, the same medicines should be administer'd to her, which we have advis'd in a less dose for children,

To conclude: the application of suitable bandages and bolsters to the incurvated spine, and differently distorted limbs, is advisable, provided care be had not to do mischief instead of service, and bring on a worse disease than that we intend to cure. See Hoff. op. tom. III. pag. 487 & seq. See also Dr Shaw's new practice of physic, p. 554 & seq. where the reader will meet with a concise history of this disease, and the best methods of cure.—And pag. 64. of our author's works.

make them into four pills, to be taken at five in the morning, sleeping after them. Let them be repeated two or three times, either every morning, or every other morning, according to their operation, or the strength of the patient.

Purging pills.

Take of the distilled waters of black cherries, rue and briony, each three ounces; castor, tied up in a piece of linnen, and suspended in the vial, half a dram; fine sugar, enough to sweeten the whole; mix them for a julap, of which let four or five spoonfuls be taken when the patient is faint, or low-spirited, dropping into the first dose, if the fit be violent, twenty drops of spirit of hartshorn.

Anhysteric julap.

104. After having taken the purging pills, as above directed, let the patient proceed to the use of the following remedies.

Take of the filings of iron, eight grains; extract of wormwood, enough to make it into two pills; to be taken early in the morning, and at five in the afternoon, for the space of thirty days, drinking after each dose a draught of wormwood wine.

Opening pills.

Or, for daily use,

Take of the filings of iron, and extract of wormwood, each four ounces; mix them together; let sixteen grains, or a scruple of this mass, be made into three pills, and taken at the times above-mentioned.

Or, if a bolus be more agreeable,

Take of the conserve of Roman wormwood, and orange-peel, each an ounce, candied angelica and nutmeg, and Venice treacle each half an ounce; candied ginger, two drams; syrup of orange-peel, enough to make the whole into an electuary.—Take of this electuary, a dram and a half; the filings of iron, finely pulverized, eight grains; syrup of orange-peel enough to make them into a bolus, to be taken every morning, and at five in the afternoon, with a draught of wormwood wine after it.

An opening electuary to be divided into bolusses.

Take of the finest myrrh and galbanum, each a dram and half; castor, fifteen grains; balsam of Peru, enough to make them into a mass; of every dram of which let twelve pills be formed; three whereof must be taken every night during this process, with three

Fetid hysteric pill.

or, four spoonfuls of compound briony-water, after them.

But if these pills should loosen the belly, as they sometimes do; in such as are easily purged, on account of the gums they contain, let the following be substituted in their stead.

Volatile
hysterick
pills.

Take of castor, a dram; volatile-salt of amber, half a dram; extract of rue, enough to make them into twenty four pills; three of which are to be taken every night.

A distur-
bance cau-
sed by cha-
lybeates,
how to be
remedied.

105. But it must be noted here, that chalybeates in whatever form or dose they are exhibited, do sometimes occasion great disorders in the sex, both of body and mind, not only in the beginning, which happens to most persons who take them, but during the whole time of their continuance. Now in this case, the course is not immediately to be interrupted, but that the patient may bear them the better, a proper dose of *laudanum* must be given every night, for some time, in any *hysterick water*.

How to
proceed
when steel
is not re-
quired.

106. But when the disease is gentle, and does not seem to require the use of steel, I judge it sufficient to bleed once, and purge three or four times, and then to exhibit the alterative hysterick pills, above describ'd, every morning and night, for ten days. This method seldom fails of curing when the distemper is not severe; and the pills alone often do great service, without bleeding or purging.

Hysterick
medicines
do not suit
all consti-
tutions.

107. It is however carefully to be noted, that some women, by reason of a certain peculiarity of constitution, have so great an aversion to hysterick medicines, which are so generally serviceable in this disease, that, instead of being reliev'd, they are much injured thereby. In such, therefore, they are to be wholly omitted: for, as *Hippocrates* observes, it is fruitless to oppose the tendency of nature; and in reality this *idiosyncrasy*, or antipathy is so remarkable and so common, that unless regard be had to it, the life of the patient may be endangered, and this not only from the hysterick medicines, but from several others; in confirmation whereof I will at present produce only a single instance (e) thus, some wo-
men

(e) The *idiosyncrasy* which *Sydenham* speaks of here is seldom very manifest, much less common, and I never met with an instance where the life of the patient was endangered by not attending to it.

men in the *small-pox*, cannot bear *diacodium*, because it occasions giddiness, vomiting, and other hysteric symptoms, whilst *liquid laudanum* agrees with them very well. I experienc'd this, whilst I was writing this epistle, in a young lady in the *small-pox*, to whom I had given *diacodium* on the sixth and seventh night, and she was seized on both nights with the above-mentioned symptoms, and the inflammation of the pustules did not go on regularly; but afterwards upon using *laudanum*, she was freed from these symptoms, and the swelling of the face increas'd, the pustules fill'd every day, and the restlessness and anxiety (which made a kind of fit of the *small-pox*) were wholly removed every time this opiate was exhibited; the patient being strengthened and revived thereby.—This by way of digression.

108. And in this manner hysteric diseases, and most kinds of obstructions, but especially the green-sickness, and all suppressions of the *menfes*, are generally cured. But if the blood be so weak, and the irregular motion of the spirits so considerable, that the disorder will not yield to a course of chalybeates, as above directed, the patient must drink some *steel water*, such as that of *Tunbridge*, or some others lately discovered. For the chalybeate virtue of these waters is more intimately communicated to the blood on account of the large quantity that is drunk, and also of their agreeableness to nature, and proves more effectual in curing diseases, than the choicest preparations of iron, however magnified by chemists.

109. But this caution must particularly be observed in drinking them; *viz.* that if any disorder happens which may be referred to hysteric symptoms, they are to be omitted for a day or two, till that symptom goes off, which would otherwise hinder the water from passing off freely. For tho' these waters are not so apt to move the humours, and cause a disorder of the spirits, as the gentle officinal cathartics yet they in some measure move the humours, inasmuch as they are diuretic, and, besides, they frequently purge. But if the waters themselves obstruct their own passage, by disturbing the humours and spirits, it must needs be highly improper to order cathartics to be taken once or twice a week during a course of them; and still more absurd to mix purgatives therewith; which occasion

If steel fails
of curing,
the chaly-
beate wa-
ters are to
be drank

A caution
to be ob-
served in
drinking
them.

both these and other *mineral waters* to pass more slowly and difficultly. (f)

Their nature explained,

110. I must here acquaint you, that tho' some are of

(f) Preparatory to drinking *mineral waters* properly such persons as are full of blood, and such only, should bleed a few days before they begin with them, by which means they will the more readily enter the vessels, and may afterwards the better correct the rest of the blood; and next let them take a gentle purge. All the stronger purgatives must be forborn, especially the *resinous* kind, and all such as are made of *scammony*, *coloquintida*, *bellebore*, and the like.

If there are indications for giving a vomit, a gentle one may be administered with great advantage: the best seasons for drinking them are the months of *June*, *July*, and *August*; but if need be they may be successfully drank in *May*, or even in *September*, especially if the weather be warm; and in some cases they may be used in autumn or winter.

The properest time of day to begin to drink them is about seven in the morning, or if the weather favours, at six; that by this means their operation may be commodiously finished before dinner. I cannot approve of the custom of hastening to the spring at four or five, because the air is then mostly too cold, and cloudy, and checks perspiration, and so easily occasions coughs and other diseases of the head and breast, and likewise because this hinders their getting sleep enough, and disturbs them too early.

The best manner of drinking the *waters* is to begin with a small quantity, increasing it gradually to the proper dose, and observing to diminish the quantity in the same proportion a little before finishing the course.

In the *last place*, we shall say a word or two of the proper *diet* and *regimen*, to be observed in drinking the *waters*. For as no remedy without a proper regimen can have its proper effect, so a course of *mineral waters* requires an exact care in this particular. There are two *errors* generally run into by the drinkers, *viz.* indulging themselves either too much or too little. Some physicians are so scrupulous as to forbid their patients the use of all acid, saline, and spicy meats; though perhaps these alone are pleasing and agreeable to them: but the point of exactness is here, for every one not greatly to recede from his usual custom, otherwise the appetite may be hurt, digestion not well perform'd, and crudities and new disorders generated. Others, who have a principal regard to the stomach, only advise the use of spirituous and aromatic things, which is a great hindrance to the business of excretion; for common experience testifies that such things bind up the belly. Above all, voracity, and turbulent disorders of the affections should be prevented, as great enemies to digestion; whence the body is loaded with an useless weight, and the *waters* render'd ineffectual for subduing and discharging the crudities of the body. The stomach also will be weaken'd and relaxed by this procedure, and the *waters* now plentifully drank, remain longer therein and thus give rise to many inconveniences. *Heister Compend. Med.* p. 460. And *Dr Shaw's translation of Hoffman on mineral waters*, p. 133.

of opinion, that these waters contain a solution of the principles or elements of iron, which is the same thing as supposing liquid iron; yet I doubt not that they are only simple elements, impregnated with the ore, or mineral, which they lick up in their passage thro' the mine. And this may be made manifest, by pouring some gallons of water upon a sufficient quantity of rusty nails, letting them stand some time together in infusion; and afterwards adding to a small quantity thereof, a little powder of galls, a few leaves of green-tea, or something of the like kind; for thus it will be tinged in the same manner, as mineral waters are by such mixtures (g) Moreover, these natural, or artificial waters (which name soever you give them) being drank in the summer time, and in a healthful air, are productive of the same effects.

III. But

(g) 'Tis certain, says Hoffman, and abundantly confirmed by chemical experiments, that no metals are soluble, or can possibly enter the composition of waters, unless the metal be first dissolved, or turned to a salt or vitriol. — Of all the metals there is none that dissolves so readily in all kinds of acids as iron. And thus pure water itself, on account of the æthereal principle, and the universal salt it lodges, will soon prey upon, and dissolve this metal. So that if a piece of red hot iron be quenched in common water, it communicates some particles of itself thereto; as appears by the strengthening, binding, rough and styptic taste of the water thus heated. And as 'tis a familiar observation, that the moisture of the air, rain, &c. corrodes iron, turns it into rust, and impregnates itself therewith; there is no question but that all springs, which wash the beds of iron ore, or take their course thro' red, clay grounds, lick up in their passage, particles of an iron nature; and come impregnated with them to the springhead. And accordingly the waters of such springs, all over Europe, are called by the name of chalybeate, steel, or iron waters.

The external signs of these chalybeate waters are derivable from the astringent styptic taste, which they in some degree impress upon the tongue; and the yellow kind of oker wherewith the canals or conduits they pass thro' are lin'd; as also the basons and reservoirs that contain them, and the parts about the springhead, where they overflow, or are spilt. For if this kind of oker, or rubiginous matter, be collected, washed, dried, and thoroughly roasted over a strong fire; it not only appears of an iron nature, by readily answering to the load-stone; but affords a no less certain chemical mark of its being iron, by subliming with sal ammoniac, into flowers, that afford a most bright and perfect tincture of iron. Other concurring marks of their chalybeate nature are likewise afforded by the purple colour, or inky blackness they make with powder'd galls, the yellow colour wherewith they stain an egg put into the spring, and the iron-mould they cause on linen: which are all certain characteristics

of

If the chalybeate waters fail, the sulphureous kind is to be tried.

III. But however this be, if the disorder proves so inveterate, as not to yield to the steel waters; the patient must be sent to drink some hot sulphureous waters; as those of *Bath*; and after having drank them for three mornings successively, she must bath in them the fourth, and the following day drink them again; and continue this course of drinking and bathing alternately for two months. For in the use of these and all kinds of mineral waters, it is to be carefully noted, that the course must be continued, not only till the patient finds some relief, but till she perfectly recovers, so as to be in no danger of a sudden relapse (*b*)

VENICE
treacle excellent in this and many other diseases.

III2. VENICE *treacle* alone, provided it be frequently used, and continued for a sufficient time, is an excellent remedy in this disease, and likewise in many

a fine *irony rust*, or the real and material existence of *iron* in the waters.—The conclusion upon the whole is, that these kind of waters really contain somewhat of an *irony nature*; which being joined with a sulphureous spirit, resembles *common vitriol* only, in the taste and the colour it gives, without any farther approaching to the nature thereof. See this author's new exper. on *min. waters*, translated by Dr Shaw, p. 44, 47, 41, 49, and 106.

That *mineral waters* are imitable by art is a fact too well established to be contested; however it may not be amiss to observe that our author is rather too hasty in advancing, that an infusion of *rusty iron* in *common water* will be tinged in the same manner as the *chalybeate waters* are, by adding thereto a small quantity of *galls* in powder, or something of a like kind; as will evidently appear upon repeating the experiment with both with proper caution and exactness; the *artificial* mineral waters not striking so deep a colour as the natural ones do, and differing likewise considerably in some other known properties, as levity, purity subtilty, spirituousness, &c. Hence the former should seem *a priori* to differ greatly from the latter, and consequently cannot produce the same effects in drinking. And in reality it seems not likely that *art* should of a sudden prepare a medicine of this kind, equal in excellence and subtilty, to such another, which *nature* perhaps, in bringing it to the perfection wherein it is exhibited to us, is employed in a great length of time.

For the ways of imitating *mineral waters* to the best advantage, we shall refer the reader to the work last quoted, page 197, & seq, and to Dr Shaw's *chem. lectures*. p. 89 & seq; where he will be abundantly satisfied as to this point.

(*b*) With respect to the drinking mineral waters, great regard must be had to particular circumstances, which are to direct us in the choice of a proper water, and the management of the patients during the course. 'Tis impossible to lay down such general rules relating thereto, as will not be liable to various exceptions; so that in these cases much must be left to the judgment of the physician, who ought to be endowed with no little discernment, to make a suitable application.

ny others proceeding from a want of heat and digestion: it is perhaps the most effectual medicine hitherto known, how much soever 'tis contemn'd by most persons, because 'tis common and of antient date.

113. If the patient be not of a slender and bilious habit of body, an infusion of *gentian*, *angelica*, *wormwood*, *centory*, *orange-peel*, and other strengthening simples in *canary*, does great service, a few spoonfuls of it being taken thrice a day. I have advised some hysteric women to drink a large draught of *canary* by itself at bed-time, for some nights running, and they have been eminently relieved; the whole body having been much strengthen'd, and such as were before cachectic becoming fresh-coloured, and brisk thereby.

Bitters very good in some constitutions.

And canary.

114. Moreover, the *cortex* is sometimes found to strengthen the blood and spirits in a wonderful manner; and I have known several hysteric women and hypochondriac

The bark a great strengthener of the blood and spirits.

Steel-waters, as *Hoffman* observes, are possess'd of an aperitive and strengthening property, so as to be advantageously us'd as well internally as externally. Thus when drunk they loosen the belly, but strengthen the body and stomach, provoke the appetite, and may therefore be very safely and serviceably used in such distempers as give way to any preparations of *iron*. Their external use in the way of bath, is very considerable, for strengthening and cherishing benum'd and motionless limbs; curing pains, contractions, or relaxations; and for drying and healing up old ulcers. And tho' used for this purpose, in the way of bath, made but gentle warm; yet they heat the body, open the pores of the skin, and provoke sweat; especially if the patient goes directly from the bath to bed. See *new exper. on min. waters*, p. 85. [1]

(i) Some fearful and apprehensive people have been dissuaded, by interested persons, from the use of the *Bath waters* in *lowness*, *oppression* and *vapours*; and some unexperienced people have even imagined they have had more vapours than ordinary under the use of them. But these may as well affirm, that *opium* purges, and *jalap* binds. For if they mend the faults and weaknesses of the stomach and bowels (as all the world acknowledges they do, and must do by their nature and composition) they must then infallibly be most beneficial in these disorders, as from my own, and the experience of many thousand others, can be testified, who will affirm them to be the most certain relief of any in such cases. And indeed, as by their *sulphur* thus dissolv'd in hot water, they are the most cleansing and diluting of all medicines, so their steel (as I have already said) is the most effectual for bracing the solids: and with such a composition it would be pretty strange they should not (if any means could) be successful in such cases. *Cheyne's English malady*, p. 147.

chondriac men recovered, who were reduced to great weakness thro the long continuance of their respective diseases, by taking a scruple of it every morning and night for some weeks. But this remedy proves most effectual in that species of hysteric disorders, which is accompanied with violent convulsions; and wherein the patients beat their breasts: It must however be own'd that this medicine does not so certainly and frequently cure this distemper, as intermittents (*k*)

Disesteem- But to mention this by the way, tho' the bark is so
ed by some effectual in curing intermittents, and we use it freely ourselves, and administer it to our wives and children whenever there is occasion; yet there are those who dislike it as much now, because it cures with such expedition and certainty; as they did formerly, because it was but just discovered. And to this fate the best men, as well as the best remedies, have generally been exposed; but by this we try our dispositions as by a touch-stone, and hence discover whether we are good or bad men; namely, from the degree of joy, or grief we feel, whenever the good of mankind is promoted by any common benefit, and the favour of providence.

Advantage of a milk diet in thin and bilious habits.

115. But when any of the remedies above directed do not agree with the patient. as it frequently happens in thin and bilious habits, recourse may then be had to a *milk diet*. For some women (which may seem strange at first view) have been cured of long and obstinate hysteric disorders, which had baffled all the endeavours of the physicians, by living on milk only for some time, and especially of an *hysteric colic*, which can only be relieved by *opiates* and therefore women are accustomed to repeat them at intervals, the pain returning as soon as the effect of the anodyne ceases. But what is most surprizing in this method of cure is, that

milk

(*k*) The *bark* cannot be enough commended in this and most diseases where the blood is impoverish'd, the spirits low and the tone of the solids considerably debilitated. To make it more effectual in this case, it may be join'd with hysteric and chalybeate medicines. [*l*]

(*l*) I think says the last quoted author, there is not a more wonderful strengthener of the solids, than the *jesuit's bark*; and I take it universally to be the best and only cool bitter astringent known to men *ib.* p. 144.—To the tender, delicate, and such as are unhappy in weak and *lax nerves*, the *bark* is the best and safest of the vegetable *restringents* and *bracers*.—*Method of curing the diseases of body and mind*, p. 307.

milk, which yields only a crude and cold nourishment, should nevertheless, by use, strengthen the spirits; and yet this will not seem at all repugnant to reason, if it be considered that *milk* affording only a simple aliment, does not give nature so much trouble in digesting it, as food and liquors of a more heterogeneous kind do, and that an equal mixture of the blood and spirits necessarily follows this perfect digestion. For it must likewise be observed, that 'tis not the bare weakness of the spirits considered separately, but as compared with the state of the blood, that as the cause of those disorders which afflict such patients: for a child may have sufficiently strong and firm spirits with respect to its blood, which notwithstanding may not be proportionable to the blood of a grown person. Now as the continued use of *milk* (tho' it be a crude and slender aliment) renders the blood more soft and balsamic; if the spirits thence generated be but adequate thereto, the cure goes on well. But notwithstanding the advantages that might accrue from such a diet, there are some who cannot support the inconveniencies that generally accompany it in the beginning: because it is apt to curdle in the stomach, and does not afford sufficient nourishment to keep up the ordinary strength of body (*m*).

But it disagrees with some subjects.

116. But

(*m*) *Milk* is so far from being a crude and slender aliment, that it is in general a very proper and wholesome medicine and diet for weakly, consumptive, and goury persons, whose digestive faculty is impaired; because it is both easy of digestion, and affords a copious nourishment: but in order to make it effectual for the purposes it is given, it should be drank freely, and the use of it continued for a considerable time.

Breast milk is the softest and lightest, and best adapted to the nature of the human species: the writers of observations relate some wonderful cures that have been effected by the use thereof. The next in goodness to this is *asses*, and then *goat's milk*; cow's milk being by most authors rank'd in the last place. The extraordinary virtues of *asse's milk*, and the manner of drinking it to the best advantage, and the cases wherein it is proper are delivered at large, and with great plainness by the judicious *Hoffman* in a dissertation on the subject, entitled *de mirabili lactis asinini in medendo usu*, to which therefore we refer the reader for further information in this matter. (*n*)

(*n*) *Milk*, says *Dr Langrish*, is universally esteemed the best restorative, it being chyle already prepared, and most easily assimilated into blood, and converted into nourishment. All milk is of a soft, cooling, nourishing nature, putting the least stress upon the several organs of the body to digest it, and afford-

Riding
the best
strength-
ener of the
spirits.

116. But the best thing I have hitherto found for strengthening and clearing the spirits is *riding on horse-back* some hours almost every day. For, as this kind of exercise most affects the lower belly, which is the seat of the excretory vessels, appointed by nature to carry off all the excrementitious parts of the blood, there can hardly be any disorder of the functions, or natural weakness of the organs, so considerable as not to be relieved, by the often repeated agitation of the body, the same day, in the open air. Neither can any person have the innate heat so extinguished, as not to be rouz'd afresh by this exercise. Nor can there be any preternatural substance, or vitiated juice so intimately lodged in any cavity of these parts, which cannot, by the use thereof, either be reduced to such a state as is agreeable to nature, or dissipated and expelled. And by this constant motion the blood, being continually agitated and mixed, is purified and strengthened likewise. And in reality, though this exercise does not agree so well with women, who lead an easy and sedentary life, as they may be injured by motion, especially in the beginning, it is nevertheless very proper for men, and soonest recovers their health (o.)

117. To produce an instance of its efficacy: a reverend and learned prelate having applied himself too intently to his studies for a long time, was at length seized with an hypochondriac disorder, which, by its long

Exemplified in a case -
fording as few excrementitious particles as can be: but above all *women's breast milk* is most to be depended upon, and has raised many people from the most deplorable conditions. * The milk drawn from the *breasts of women* is the sweetest; the nearest whereto, is *asse's milk*, which indeed has a saccharine sweetness, and comes almost up to the human. This is succeeded in virtue and goodness by that of *mares*, which is better than that of *goats*; yet even this exceeds that of *sheep*, as theirs does that of *cows*, which is the coarsest of all.

Hence *milk* is most fit to repair the great decays of consumptive people, and to recruit their exhausted spirits; and ought always to be drunk warm as it comes from the body, before the spirituous gas evaporates and flies off. *Modern theory and practice of physic*, p. 328.

For the further particulars of the virtues and uses of *milk* we refer the reader to *Dr Cheyne's method of curing the diseases of body and mind*, p. 125 & seq. and *Lobb's treatise on dissolvents of the stone &c.* p. 364

(o) See above, sect. iv, chap. 7, par. 10. p. 191.

* Vide *Boerhaave's chemistry*.

long standing, deprav'd all the ferments of the body and destroy'd the digestions. He had gone through some courses of chalybeates, and tryed most mineral waters, with repeated purgation, all kinds of antiscorbutic medicines, and abundance of testaceous powders, which bid fair for sweetening the blood. Being thus in a manner worn out, partly by the disease, and partly by the continued use of remedies for so many years, he was at length attack'd with a *colliquative looseness*, which is the usual fore-runner of death in *consumptions* and other chronic diseases, when all the digestive faculties are totally destroyed. At length he consulted me, and I immediately judged that it would be in vain to order any more medicines, as he had taken so many ineffectually; and therefore advised *riding on horseback*; directing him to take only such short journeys at first, as might best suit his weak condition. Had he not been a judicious and considerate person, he could not have been perswaded to try this kind of exercise. I intreated him to continue it every day till he found himself perfectly recovered; and to lengthen his journeys by degrees to a moderate day's journey, and not to mind either meat or drink, or the weather, but to take up with such accommodations as are to be met with upon the road, like a traveller. In short he continued this method, till at length he rode twenty or thirty miles a day, and finding himself much mended in a few days, he was encouraged by this wonderful success to continue this course for several months, in which space of time he told me he had rode many thousand miles; so that at length he was not only freed from his disorder, but became strong and brisk.

118. Further, this kind of exercise is not more beneficial to hypochondriac than to consumptive subjects, of which distemper several of my relations have been cured by riding long journeys by my advice. For I was well assured that no other method or medicines were more effectual. Nor is riding on horseback only proper in slight indispositions, accompanied with a frequent cough and wasting, but even in confirmed consumptions, wherein the *looseness* is succeeded by *night sweats*, which are the general fore-runners of death, in those who perish by this disease. In fine, how desperate soever a *consumption* may, or is esteem'd

Excellent
in con-
sumptions.

to be (two thirds of such, as die of chronic diseases being destroy'd thereby) yet I solemnly affirm, that riding is as effectual a remedy in this disorder, as *mercury* is in the *lues venerea*, or the *bark* in *intermittents*; provided the patient be careful to have his sheets well aired, and takes sufficient long journeys. But it must be observed, that such as are past the prime of life, must continue the use of riding much longer, than such as are not yet arrived at that age; which I have learnt from much experience, that scarce ever failed me; and tho' *riding on horseback* does most service in consumptive cases, yet *riding in a coach* does sometimes produce surprizing effects. (p)

What is to be done in the fit

119. But to resume our subject. This is the general method of curing this disorder, which removes the original cause, consisting in the weak texture of the blood; and is only to be used therefore when the fit is off. But when the fit comes on, accompanied with any one of the above mentioned symptoms, and the disorder is so violent as not to admit of a respite till it can be cured by strengthening the blood and spirits, we must have immediate recourse to hysteric medicines, which by their strong fetid smell compel the disordered spirits to return to their deserted stations, being either taken inwardly, held to the nose, or outwardly applied: such are *asa fœtida*, *galbanum*, *castor*, *spirit of sal-ammoniac*, and all such medicines as have a very offensive smell. (q)

Fetid medicines proper here.

120. And in effect, whatever has a disagreeable odour, whether it be naturally fetid or render'd so by art, admirably answers this intention; and probably *spirit of hartshorn*, of *human blood*, of *urine*, of *bones*, and the like, owe their principal virtues to a fetid *em-pyreuma*

(p) *Riding on horseback*, as the learned *Hoffman* observes, is much extolled in a *consumption* and *hectic* by the most eminent physicians, both antient and modern. And nevertheless, in the beginning of the distemper, and in young persons of a plethoric habit, it proves detrimental, by occasioning frequent returns of the *spitting of blood*. Nor is it at all serviceable where the lungs are adjudged to be considerably tainted and impoſthumated, inasmuch as too much motion of the body, either by *riding on horseback*, or in a *coach*, is very apt to bring on a fatal inflammation of this part. But in an *hypochondriac consumption*, or atrophy, the case is extremely different, for here moderate exercise, repeated with frequency, is highly proper. See *Hoff. op. tom. iii. p. 294.*

(q) Here the caution above inculcated should be remembered. See above par. 107. p. 436.

pyreuma which they contract in distillation, and is intimately united with them. And this is also manifest in the fumes exhaling from burnt leather, feathers, and similar parts of animals. For all the parts of animals have this property in common, that they emit a fetid vapour or fume whilst they are burning, which being condens'd by distillation is converted into those kinds of liquors, entitled *volatile spirits*, which obtain such properties as did not originally exist in the subjects; as being only creatures of fire: and their virtues are manifestly the same from whatever animal substance they be gained (*r*)

.121. It

(*r*) The apothecaries shops were formerly burthen'd with a vast number of volatile salts and spirits, drawn not only from different animals, but likewise from different parts of the same animal. These were supposed capable of producing different effects upon the human body: thus the volatile salt and spirit, extracted from the human skull, were whimsically enough look'd upon as medicines peculiarly adapted to remove diseases of the head: and thus the salt obtained from vipers was accounted the only one to be depended upon, for the cure of the bite of that animal; while the spirit from human blood, carefully prepared, was esteemed the most sovereign remedy in all disorders, a medicine never enough to be extolled, to which all other preparations of this kind must give way; since this was drawn from the most perfectly elaborated juice of the noblest animal, and therefore consequently must be endowed with virtues superior to any other.

The modern practice of physick acknowledges no such different effect from these preparations in the cure of diseases.

There is indeed a difference in the smell, taste, degree of pungency and volatility, manifestly perceptible to the senses, in these salts and spirits; and without their medicinal virtues vary, if not quite so much, yet considerably enough to deserve particular notice. But this difference all these preparations have in common, according as they are more or less loaded with oil, not as they are drawn from this or that animal substance. When first distill'd, they may be looked upon as a kind of volatile soap, in which the oil is the prevailing principle. In this state they are less acrimonious and pungent, than when they have undergone repeated distillations, and such other operations as disengage the oil from the salt: for by this means these preparations loose their saponaceous quality, and requiring greater degrees of acrimony, become medicines of a quite different class. To which must be added that when we consider these salts as loaded with oil, the particular virtue of a distilled animal oil * is to be brought into the account.

Upon the whole, it should seem, that these preparations do not differ near so much from one another, as they do from themselves in different states of purity; an observation which

makes

Laudanum
sometimes
necessary.

121. It is next to be observed that when the fit is attended with a very violent pain of any particular part, excessive vomiting, or a looseness, besides the *hysteric remedies* above-mentioned, we must exhibit *laudanum*, which is the only medicine that can quiet these symptoms. But unless the pains occasion'd by vomiting be in a manner intolerable, we must be cautious of mitigating them by *laudanum*, or any other opiate, before proper evacuations have been made. (1.) Because sometimes there is so considerable a plenitude of blood and juices in the body (especially in sanguine and robust women) as to render the frequent repetition of the most powerful opiate ineffectual. In such therefore bleeding in the arm is indispensably necessary, and a purge must be administered; and these things being rightly performed, before proceeding to the use of *laudanum*, the opiate, which availed not in a large quantity, will answer the end in a moderate dose. (2) Moreover I have learnt from much experience, that whenever the patient has been accustomed by degrees to *laudanum*, and proper evacuations have not been previously made, she is compell'd, by reason of the return of the pain, so soon as the virtue of the opiate vanishes, to repeat it every day for some years, gradually augmenting the dose, so that in time it becomes impossible to leave it off, notwithstanding all the digestive faculties are injured, and the natural functions weakened thereby. Tho' I do not conceive that the use of *laudanum* does immediately hurt the brain, nerves, or animal faculties.

Bleeding
and purg-
ing when
to be used
before ex-
hibiting it.

122. Therefore I judge it necessary from experience to make evacuations before exhibiting opiates: for instance, in robust and plethoric women, bleeding must be performed, and a purge administered; especially if they have had a fit lately. But if weak women, and those of a contrary constitution, be seized with such a fit and pain, who have but lately been afflicted in the same manner, it will suffice to cleanse their stomachs with three or four quarts of posset drink, and, after the operation, to prescribe a large dose of *Venice treacle*

makes this note the more necessary, as it is not perhaps so much attended to in practice, as it deserves. *Lewis's translation of the Edinburgh dispensatory*, p. 268.

* Hoffman. *observat. physico-chym. lib. 1. observ. 14.*

treacle, or *orvietan*, and a few spoonfuls, of some grateful spirituous liquor, with a few drops of *liquid laudanum* to be taken immediately after it.

123. But if the patient has been long afflicted with a vomiting before the physician was called; so that there is reason to apprehend that a vomit might greatly disturb the spirits, and weaken her too much, *laudanum* must immediately be exhibited in such a dose and repeated with such frequency, as the continuance and urgency of the symptom demands; so that it may be able to conquer it.

When *laudanum* must be immediately given.

124. But here two cautions are to be particularly observed. (1.) When, after necessary evacuations, the use of *laudanum* is once begun, it must be taken in a sufficiently large dose, and so frequently repeated, that all the symptoms may be removed; only allowing such an interval between every dose, that the effect of the former may be known before another is exhibited. But we have treated largely of this matter in another place. p. 177. (2.) When we endeavour to cure this distemper with *laudanum*, we must forbear all kinds of evacuations; for the gentlest glyster, of milk and sugar, is enough to destroy all the good effects of the opiate, and cause a return of the pain and vomiting.

Cautions to be observed in giving it.

125. But tho' the pains above-mentioned, as we have already intimated, eminently require opiates, yet a violent vomiting indicates much the largest dose of them, and their frequent repetition. For, in this case, the peristaltic motion of the stomach being inverted, the medicine is thrown up by vomit, before it can produce any effect; unless it be exhibited anew after every vomiting, and particularly in a solid form; or if it be given in a liquid one, the quantity of the vehicle must be so small, that it may barely moisten the stomach, so that it may be prevented by the smallness of the matter from throwing it up: for instance, a few drops of *laudanum* in a spoonful of *strong cinnamon water*, or the like. The patient likewise must be cautioned to compose herself immediately after taking the *laudanum*, and to keep her head as steady as may be: for nothing promotes vomiting so much as the least motion of the head; whence the medicine, which was newly taken in, is ejected. Moreover, when the vomiting is in a manner conquered, it is proper to repeat the anodyne

Violent vomiting requires the largest dose and a frequent repetition of the opiates.

morning and night for some days, in order to prevent a relapse: and this should be observed in *hysteric pains*, or a *looseness*, which have been cured by an opiate.

The pain and vomiting here often impose on physicians.

126. By this method the *symptomatic* pain and vomiting may be easily cured, which, because they often resemble other diseases, deceive the physician more than any other symptoms that require their assistance: concerning which I will subjoin a few remarks. For instance, in that kind of hysteric disorder just described, which resembles a *nephritic paroxysm*, and a genuine fit of this kind, is it not manifest that the symptoms differ very little? For the pain attacks the same part in both disorders, and is also attended with a vomiting, and notwithstanding they proceed from very different causes, and require such different treatment, that what relieves in the one, injures in the other, and *vice versa* (s.) For where the stone, or the gravel, corrodes the kidneys, occasions pain, and a vomiting also by consent of parts, nothing does so much service as a copious and frequent revulsion of the antecedent cause by bleeding, and dilating and relaxing the vessels thro' which the stone is to pass, by the frequent repetition of *emollient glysters*, and internals of the same kind, along with *diuretics*, and *stone-dissolving* medicines. But when these symptoms do not proceed from the stone, but from a too copious derivation of the animal spirits to the kidneys (in which case only opiates are indicated, and the gentlest glyster cannot be safely injected, after the first evacuations) I need not observe that a different method of procedure must needs be extremely hazardous.

Danger of mistaking the cause thereof.

And also of that disorder which resembles the *bilious colic*.

127. The same may be affirmed of that hysteric disorder, which resembles the *bilious colic*, or the *iliac passion*: for when it is judg'd to be the bilious colic (tho' it is of a quite contrary nature, and occasioned by the separation of a sharp humour into the bowels thro' the mouths of the *mesenteric* arteries) which is a mistake, that a physician, who is not sufficiently observant and considerate, may be easily led into, from the violent pain; and the green colour of the matter discharged upwards and downwards, the best method of cure consists in smoothing the acrimony of the humour by cooling and thickening medicines, and giving purgatives

(s) See above, sect. 4. chap. 7. par. 18. p. 195.

purgatives frequently, besides glysters every day, in order to free the bowels from them; especially *mercurius dulcis*, mix'd with *scammony*, to carry off the morbid matter entirely. But if this disease, which is taken for the *bilious colic*, be in reality a *hysteric* or *hypochondriac* symptom, 'tis clear, that this method must needs be wrong and very hazardous, since experience testifies, that after the first general evacuations which are intended to carry off the corrupt humours, generated by the irregular motion of the spirits, whence the virtue of the opiate may be obstructed, nothing more needs to be done than to quiet the tumultuous spirits till the symptoms vanish; after which it is proper to administer chalybeates, or any other remedy, which may eradicate the disease, by strengthening and warming the blood. It is not my design to enumerate the many ill accidents which I have known happen to women, when this *hysteric colic* has been esteemed to proceed from *bile*: Nevertheless, I scruple not to assert that the frequent repeated evacuations, which in effect are manifestly indicated in the *bilious colic*, instead of relieving, increase the pain and vomiting, by promoting the disturbance of the spirits, whence these symptoms originally proceed. But at length, the disease being prolonged for some months, terminates in convulsions, from a sudden translation of the *morbific cause* to the brain, which soon destroys the patient; and especially if an emetic be exhibited, after a long-continued repetition of other evacuations, on account of the green colour of the matter vomited up (*t.*) In a word, I have learnt from observation, that particular caution must be had to guard against all errors in the diagnostics, by judging the common hysteric symptoms to proceed from other diseases which they frequently resemble.

128. And here I must inform you, that besides the im- This disease sometimes mortal from the bad symptoms succeeding it.
minent danger to which hysteric women are exposed
by reason of the mistakes already enumerated, there
is another, which is equally fatal to numbers thus af-
flicted, when this disease, tho' it is not naturally mor-
tal, proves so from the bad symptoms which succeed it.
To exemplify this, let us suppose that a woman of a
slender and weakly constitution, is happily delivered,
and a few days after the midwife, either thro' igno-
rance

Ff 4

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(*t.*) See above, sect. iv. chap. 7. par. 16. & seq. p. 194.

A stoppage
of the LO-
CHIA in
child bed
whence.

rance, or vanity, in order to shew how well she has performed her office, persuades her to rise and sit up a while; which being complied with, the patient is immediately seiz'd with an hysterick disorder, and, as it increases, the *lochia* are first diminished, and then entirely suppressed, and their unseasonable stoppage succeeded by a numerous train of symptoms, which soon prove fatal, unless great skill and diligence be used to prevent it. And sometimes a *delirium* proceeds from the same cause, which, augmenting continually, occasions convulsions, and then death: or if the patient escapes, she loses her senses, and continues somewhat lunatic for the remainder of life. Sometimes a suppression of the *lochia* is followed with a fever, which either becomes of the same kind with, or proceeds from the then reigning epidemic: moreover the same hysterick disorders that first occasioned the suppression of the *lochia*, rage more violently now, thus, as it were, generating themselves afresh.

Mischief of
rising too
soon after
delivery.

129. I have long been of opinion, that scarce a tenth person of such as die in child-bed, perish either for want of sufficient strength to bring forth the child, or from the pains accompanying a difficult birth, but chiefly from rising too soon after delivery, hysterick paroxysms being hereby occasioned, which, when the *lochia* are stopped, cause a numerous train of fatal symptoms.

Weak wo-
men ought
not to be
suffered to
rise till the
tenth day.

Upon this account, those that follow my advice, keep in bed at least till the *tenth* day, in case they are of a weak constitution: and especially if they have formerly been subject to *vapours*. For the rest they have in bed not only preserves them from the symptoms so often enumerated, but the continued warmth thereof revives the spirits, which are debilitated and exhausted by the labour-pains, and the ordinary evacuations happening in this case, and likewise strengthens nature, and carries off those crudities that were collected during the time of pregnancy. (u)

130. But

(u) This observation of our author's is grounded upon a fact that has been too frequently verified; so that the custom of rising too soon and sitting up, after delivery, cannot be too much condemned, nor the contrary practice too strongly inculcated and recommended to the notice and attention of all those of both sexes that practice midwifery. And *Funcker* so far approves it, as to advise their not getting up till the ninth day. See his *conspect. medicin. theoretico. pract.* p. 1009.

130. But if any one of the symptoms above enumerated happen from such an error, the curative indications are to endeavour (1.) to compose the spirits disturb'd by this motion, and (2) to remove the suppression of the *lochiae*; this being the immediate cause of these symptoms. This method, however, must not be obstinately persued; but having continued the use of those remedies, for some time which ordinarily succeed in this case, and they failing, we are to leave them off; for, as forcing medicines are not to be administered here, so neither ought we to persist in exhibiting those of a milder kind, because of the extreme weakness and lowness of spirits, which child-bed women, who are thus affected, labour under. To illustrate this by an instance: as soon as the *lochiae* are suppress'd, it is proper to put the woman to bed, and apply an hysteric plaister to the navel, and prescribe the following electuary, to be exhibited as soon as it can be made up.

Method of curing a suppression of the LOCHIAE.

Take of conserve of Roman wormwood and of rue, An ounce each an ounce; troches of myrrh, two drams; castor, saffron, volatile sal-ammoniac, and asa fætida, each half a dram; syrup of the five opening roots, a sufficient quantity to make them into an electuary; of which let the quantity of a large nutmeg be taken every three hours, drinking after it four spoonfuls of the following julap.

Take of the distilled water of rue, and compound briony water, each three ounces, fine sugar enough to sweeten it; mix them for a julap.

If these medicines be given as soon as the suppression of the *lochiae* appears, they generally effect a cure; but if the disorder continues after the whole quantity here directed is taken, we must exhibit at least a single dose of *laudanum*; which, tho' it be naturally astringent, yet, by allaying the hurry of the spirits. whereby the usual flowing of the *lochiae* is check'd, it does great service, and may sometimes remove the suppression when emmenagogues avail not: but opiates are most commodiously exhibited along with hysteric and emmenagogues: e. g. fourteen drops of *liquid laudanum* in compound briony water; or a grain and half of *solid laudanum*, and half a scruple of *asa fætida* made into two pills,

Laudanum when to be given in this case.

Not to be repeated.

131. It must; however, be carefully observed, that in case the *lochia* do not flow afresh by giving a single dose, the *opium* is by no means to be repeated, as is usual and requisite in other cases; because a repetition of it here would suppress them so powerfully, that they could not afterwards be forced. If therefore, after having waited some time, to be assured of its effects, we find it fail, we must return to *emmenagogues*, joined with *hysterics*, and then inject a glyster of *milk and sugar*. And what has been inculcated above concerning *opium* is equally applicable to glysters; for if the first does not bring down the *lochia*, nothing is to be expected from more; one being sufficient to answer this end, by inviting the humours gently downwards, whilst more may divert them another way. (x)

But best to wait, and see what effect time will produce.

132. This method having been us'd, with the caution above directed, it is safest, and incumbent on a prudent physician, to wait and see what effect time will produce; for the danger lessens every day, and if the patient outlives the *twentieth* day, she is in a manner out of danger. For when the woman has had a little respite, and recovered some degree of strength, she will be able to bear the properest method of removing that disorder

As the *lochia* may be suppress'd from different causes, regard must always be had to the species of the cause whence this disorder proceeds. Thus, after a difficult delivery, which has been accompanied with severe pains, occasioning violent spasmodic contractions of the solids, and a tumultuary motion of the fluids, whence the *lochia* cease to flow, the curative indication is to allay the commotion, which may be accomplish'd by bleeding; if requisite, glysters, anodynes, a moderately cooling regimen, keeping the patient quiet, and administering mild diaphoretics along with diluting thin liquors. But if the *lochia* be suppress'd by taking of cold, an obstructed perspiration, the depressing passions, and the like, the patient must be confined to her bed, and use a warm perspirative regimen, drinking all her liquors warm; taking a few spoonfuls of some proper cordial, or warm wine between times, and living on gellies, panada, broth, &c. not omitting the use of proper uterine medicines at the same time, as *myrrh*, *borax*, *saffron*, *sperma ceti*, *volatile salt of amber*, *wild valerian root*, *volatile spirits*, and the like.

(y) When a suppression of the *lochia* is occasioned by inflammation simply, which sometimes happens, bleeding, fomentations, and a proper diet must be used, and are attended with great success. The symptoms, however, must determine when the patient should be treated in this manner, but great care is to be taken to avoid procuring a looseness, because that often proves fatal in this case: this, therefore, must be looked on as an important caution.

disorder, whatever it be, which proceeded from the suppression of the *lochia*; whereas, contrariwise, by continuing to give a multitude of remedies. when the first proves ineffectual, the disease, and the hurry of the spirits occasioning it, may be encreased; which deserves particular attention.

133. I was sent for not long since by a lady, who, Illustrated by a case. from the cause just specified, was seized immediately after delivery with hysteric paroxysms, and a stoppage of the *lochia*. I endeavoured to force them by the remedies above enumerated, but succeeded not; the hysteric disorder being so violent, as not to yield to medicine. Having therefore at length foreseen that she would recover if I did nothing at all, I judged that the cure might be left to time, the best physician. And my advice succeeded well till the *fourteenth* day; for visiting her every day, I never found her one day worse than she was the day before. But after this, her attendants, whom I had hitherto prevented from injuring her, under the appearance of assisting her, prevailed with her husband to have her immediately blooded in the foot; which being done, the hysteric paroxysms encreased to that degree as in a few hours to occasion convulsions, which soon proved fatal.

134. And indeed, if I may speak my sentiments freely, I have long been of opinion, that I act the part of an honest man, and a good physician (not only in these diseases of child-bed women, but likewise in all acute diseases, where I cannot certainly promise that the method I make choice of will perform the cure) as oft as I refrain entirely from medicine, when upon visiting the patient I find him no worse to-day than he was the day before, and have reason to suppose he will be no worse to-morrow than he is to-day. Whereas, if I attempt to cure the patient by a method, which I do not yet know to be effectual, he will be endangered, both by the experiment I am going to make upon him, and the disease it self; nor will he so easily escape two dangers as one. For tho' at present there appears no manifest sign of his amendment, yet it is certain, that the nature of an acute disease is such, that it cannot always last; and besides, every day will lessen the danger, or at least afford the physician a more certain and favourable opportunity of conquering the

The equity of this manner of procedure

disease, than he had before. And this may truly be affirmed of most diseases, but chiefly of such as are peculiar to women in child-bed, wherein the least error may prove fatal, and we find it so difficult to govern that natural evacuation, from the suppression whereof the diseases we have been treating of proceed.

Hysteric disorders sometimes caused by an immoderate flux of the menses.

The first species of it described, and the method of cure delivered.

An astringent drink

135. But as *hysteric diseases* do not always originally rise from the primary cause, which is the *natural weakness of the spirits*, but sometimes from an adventitious weakness thereof, I intend, therefore, before I finish this epistle, to treat of this kind of cause, which is frequently productive of what are entitled *vapours*: and this is an *immoderate flux of the menses*, either in child-bed, or at other times. The first species chiefly happens soon after a difficult delivery, and is attended with a numerous train of hysteric symptoms; but as it only comes and proves troublesome in the beginning, so it soon goes off; being easily remedied by an *incastrating diet*, wherewith the following drink may be joined.

Take of plantain water and red wine, each a pint; boil them together to the consumption of a third part, and then sweeten it with a requisite proportion of fine sugar. Give half a pint of it twice or thrice a day.

In the mean time some sufficiently weak hysteric juniper may be exhibited at times, and the following composition held to the nose.

Take of galbanum and asa foetida, each two drams; castor a dram and half; volatile salt of amber, half a dram; mix them together.

Or,

Take spirit of sal-ammoniac, two drams; and let the patient smell to it often. (z)

A fetid palle.

136. But (z) Should not this disorder rather be entitled an immoderate flux of the *lochia*, or *violent flooding*. the menstrual discharge never happening at this period of time? The cure of it is effected by keeping the patient moderately cool, bleeding, if the strength will admit, promoting sleep and rest, and using restringents internally and externally, especially applying linen cloths, dip'd in vinegar, to the regions of the *abdomen* and *loins*. The *Pulvis stypticus Helvetii* is given with great success in this case, as I can attest from my own experience.

A learned physician, says *Lewis*, assures us from his own experience, that he never found any medicine so much to be depended on, in uterine hæmorrhages, as a mixture of equal parts of alum and dragon's blood, (usually called the *pulvis stypticus*)

136. But as to an *immoderate flux of the menses*, which seizes women when they are not pregnant, tho' it happens at any time, yet it most frequently comes a little before the *menses* leave them; namely about the age of forty five, if they begin early, or about fifty, if they begin late. In such subjects they often flow immoderately, a little before they vanish entirely, and occasion violent and frequent hysteric fits, from the large quantity of blood which is continually lost. Now tho' hysteric medicines are to be us'd in this case, both internally and externally, avoiding the stronger kind, for fear of promoting the flux, yet the chief step towards the cure consists in checking the menstrual discharge, which may be soon effected in the following manner,

The second described, and the method of cure particulariz'd.

137. Take away eight ounces of blood from the arm, and the next morning give the common purging potion, which must be repeated every third day for twice; and let her take an ounce of *diacodium* every night at bed time during the course of the disease,

The process.

Take of the conserve of dried roses, two ounces; troches of lemnian earth, a dram and half; pomegranate bark, and red coral prepared, each two scruples; blood-stone, dragon's blood, and armenian bole, each a scruple; and as much simple syrup of coral as will make the whole into an electuary; of which let the quantity of a large nutmeg be taken every morning, and at five in the afternoon, with six spoonfuls of the following julap.

An astringent electuary.

Take of the distilled waters of oak-buds and plantain, each three ounces, small-cinnamon water, and syrup of dried roses, each an ounce; spirit of vitriol, enough to give it an agreeable sharpness.

An astringent julap.

Take of the leaves of plantain and nettles, each a sufficient

Incrassating juices.

stypticus Helvetii), whether to correct the too frequent return of the menses, or their too great abundance; to stop the flooding which women with child are subject to; or to moderate the flow of the lochia. The quantity he gave was more or less, according to the exigencies of the patient. In violent bleeding, he gave half a dram every half hour; and seldom or never miss'd to stop the flux before three drams, or half an ounce had been taken. The success of this medicine in these evacuations, encouraged him to prescribe it in the *fluor albus*, in which it had surprizing good effects. See his translation of the *Edinburgh dispensatory*, p. 174. and *medical essays*, vol 4. p. 38.

ficient quantity: bruise them well together in a marble mortar, and press out the juice, and lastly clarify it. Let six spoonfuls of it be taken cold three or four times a-day.

After the first purge, let the following plaister be applied to the region of the loins.

A strengthening plaister.

Take of diapalma and rupture-plaister, each equal parts; melt them down together, and spread the mass on leather.

The regimen to be used.

138. A cooling and thickening diet must be prescribed, only it will be convenient to allow the patient a glass of *claret* once or twice a day; which, tho' it be not altogether so proper, inasmuch as it is apt to raise an ebullition, may be indulged in order to repair the strength. And this method is not only very serviceable in these disorders of the sex, but is equally useful were there is danger of a miscarriage; only in this case the purgatives and juices must be omitted. (b)

Hysteric disorders sometimes caused by a bearing down of the womb.

139. There is also another cause of hysteric disorders, tho' it happens more rarely, and this is a *bearing down of the womb*, after a difficult birth, attended with abundance of hysteric symptoms, which, however may be easily and speedily cured by the following method.

How to be cur'd.
A restraining fomentation.

Take of oak-bark, two ounces; boil it in two quarts of spring water to one; and towards the end of the operation add of pomegranate peel bruis'd, one ounce; red rose leaves and balaustines, each two handfuls; and lastly half a pint of red wine: strain off the liquor for a fomentation, to be applied with flannels in the usual manner, every morning, two hours before the patient rises, and at night after she is in bed, continuing the use of it till the disorder vanishes, (c)

140. And

(b) An infusion of the *bark* in red-wine is no contemptible medicine in this case: and it may not be amiss to apply an attringent fomentation to the part; such as that set down in the next paragraph. Sir *David Hamilton* commends a decoction of orange peel in this case, and I have experienced it to be a safe and effectual remedy.

(c) No notice is taken here of suspending the *abdomen* in a proper manner, and using a fit posture, which are so very necessary in the cure of this disorder, that 'tis frequently not removable without; the patient therefore should refrain from motion, and indulge

140. And now worthy Sir, having communicated The con- all the observations I have hitherto made, relating to clusion. the history and cure of the *hysteric disease* I have no more to add, but to intreat you to excuse any inaccuracy I may have committed in the description thereof, and likewise to accept this short dissertation, which was wrote expressly to return you thanks for your approbation of my other works. And, in reality, I so rarely meet with such treatment, that I must needs conclude either that I am void of merit, or that the candid and ingenuous part of mankind, who are formed with so excellent a temper of mind, as to be no strangers to gratitude, make a very small part of the whole. But whatever opinion the world may form of me, I will still continue to investigate and improve the method of curing diseases, to the best of my ability, and to instruct such practitioners, as have less experience than myself, For upon deliberate and equitable reflection I find it is better to assist mankind than to be commended by them, and highly conducive to tranquility of mind; popular applause being lighter than a feather, or a bubble, and less substantial than a dream. But if the wealth that is gained by such an eminent name should by some be thought to be of a more solid kind, I do not at all envy them the enjoyment of what they have acquired, but would have them remember that the lowest class of mechanics do sometimes get and leave greater fortunes to their children; and yet in this respect they are no way superior to brutes, who make the best provision they can for themselves and their issue. For if we accept such good actions as proceed from choice and a virtuous disposition (which brutes are naturally incapable of) they are manifestly upon the footing of an equality

indulge an horizontal situation. and use cardiacs and gentle astringents internally, along with a suitable regimen.

'Tis somewhat strange that *Sydenham* in this case trusts entirely to, and doubts not of the absolute effects of an astringent focus, whereas that has been frequently found to fail, and it has been quite necessary to make use of pessaries.—For a proper form of one the reader may consult *Heister's surgery*, where he treats of the disorder which this is intended to relieve: or the *medical essays*, Vol. 3, p. 313. where there is a description of a very commodious one invented by *Dr Simton* the *Chandos* professor of medicine in the university of *St Andrews*.

Of the Small-pox

equality with these, and all other men, who have not the welfare of mankind at heart,—Pray give my service to our learned friend Mr *Kendrick*, who informed me of your affection for me, which I will endeavour to return in the best manner I am able, who am,

Worthy Sir,

London,

Jan. 20. 1681-2.

Your most obliged

And affectionate

Humble servant,

THO. SYDENHAM.

A

A T R E A T I S E
O F T H E
G O U T and D R O P S Y.

The Dedicatory Epistle of the AUTHOR, to
Dr. THO. SHORT, Fellow of the College of
Physicians.

Worthy Sir,

I Present you here with a short treatise of the *gout* and *dropsy*, instead of a larger work, which I had thoughts of writing, namely, the history of those *chronic* distempers especially, which I have often met with in my practice. But as my immoderate application to this work occasioned the severest fit of the *gout* I ever had, it was a caution to me to desist from my undertaking, tho' with reluctance, consult my health, and rest satisfied with having finished my essay on these two diseases: for the *gout* constantly returned, as oft as I attempted to go on with the work.

Be pleas'd, therefore, to accept this performance with all its faults, which is address'd to you for two reasons chiefly. First, because you have readily acknowledged and asserted the usefulness of the observations I formerly publish'd (which some persons contemn) both before me and others; and, secondly, because in the mutual intercourse we have had in consultations, I have found your genius well adapted to the practice of physic. For tho' you excel in all kinds of literature, yet nature has rather intended you for a judicious practitioner, than an idle theorist; practice and speculation differing as much from each other, as trifles and matters of the greatest importance; so that if my observation be right, they seldom meet in one and the same person.

Your penetration, joined with a large and extensive practice, which have furnished you with an opportunity of making experiments, have placed you at the head of the faculty, and your affability will be a means of preserving the esteem you have acquired. If the following sheets be not disapproved by you (to whom they are inscribed) and a few worthy men, my friends, I shall little regard the
censure

Censure of others, who are angry with me, purely because I dissent from their opinions, relating to diseases and the methods of cure. And this I cannot well help, because my natural disposition inclines me to spend that time in thinking, which others employ in reading; and I am more solicitous, that all I deliver should be agreeable to truth, than to the sentiments of others; as setting lightly by public applause. And indeed, provided I discharge the duty of a good citizen, and serve the public, to the prejudice of my private interest, what matters it if I gain no reputation thereby? For upon due consideration, my endeavouring to secure a character, who am now advanced in years, will, in a little time, be like providing for a non-existence. For what will it avail me after my disease that the eight letters, which compose my name, will be pronounced by those, who can no more frame an idea of me in their minds, than I am now able to conceive what kind of persons those will be, who can have no knowledge of their immediate predecessors, and will perhaps have a different language, and other customs, according to the vicissitudes and fluctuating condition of human affairs? To what purpose, therefore, should I concern myself about the opinions of others? For if I have improv'd the diagnostic and curative parts of medicine, and thereby entitled myself to some praise, I cannot long enjoy it; and, on the contrary, if my writings are not much lik'd by some persons, I scarce think I shall trouble the public with more, by reason of my ill state of health. In reality, my hand trembled so, that I was not able to write this short treatise I now publish; but was assisted in this particular (which I gratefully acknowledge) by Mr *John Drake*, batchelor in physic, of *St John's* college in *Cambridge*, whose good nature and integrity render him an excellent friend; and whose natural and acquired endowments will make him highly useful to mankind, when he pleases to practise an art which he so well understands. I conclude, with asking your pardon for the trouble I may have given you in the performance of my duty, and desiring you to believe that it intirely proceeds from the regard and esteem I bear you, who am,

Sir,

London,
 May 21. 1683.

Your most obedient servant,

THO. SYDENHAM.

A

A TREATISE of the GOUT.

1. **T**HERE is no doubt, but men will conclude, either that the nature of the disease, which is my present subject, is in a manner incomprehensible, or that I, who have been afflicted with it for these thirty four years past, am a person of very slender abilities, inasmuch as my observations concerning this distemper and the cure thereof fall short of answering their expectations. But notwithstanding this, I will faithfully deliver the remarks I have hitherto made, concerning the difficulties and intricacies respectively occurring in the history of the disease, and the method of cure; leaving the illustration thereof to time, the discoverer of the truth. (a)

The *gout* hard to be understood.

2. The *gout* generally attacks those aged persons, who have spent most part of their lives in ease, voluptuousness, high living and too free an use of wine, and other spirituous liquors, and at length, by reason of the common inability to motion in old age, entirely left off those exercises, which young persons commonly use (b). And, further, such as are liable to this disease have large heads, and are generally of a plethoric, moist, and lax habit of body, and with all of a strong and vigorous constitution, and possess'd of the best *stamina vitæ*.

Whom it chiefly attacks.

3. The *gout*, however, does not only seize the gross and corpulent, but sometimes, tho' less frequently, attacks lean and slender persons: neither does it always wait til old-age comes, but sometimes attacks such as

Sudden change of the ordinary way of living dispose to the *gout*.

(a) The nature and cause of the *gout* are perhaps as little understood at this day, as they were in our author's time; but we are much better acquainted with the method of relieving it, which is the most essential and beneficial part of knowledge, and which, so far as it receives any improvement from theory, entitles that theory to our notice, and establishes it upon the only solid foundation.

(b) That the *gout* does often proceed originally from intemperance, inactivity, and indolence, is not to be denied; but in case it be deriv'd hereditarily from *gouty* parents, and so in a manner interwoven with the frame and structure of the body, the strictest regimen, together with an over-cautious use of the rest of the *non-naturals*, generally avail little towards a perfect cure; and, if imprudently persisted in do sometimes weaken the constitution so much that it cannot throw the distemper upon the external parts, whence it exerts its violence upon the inward parts, and destroys the patient without ever producing a regular fit.

are in the prime of life, when they have received the seeds of it from *gouty* parents, or have otherwise occasioned it by an over-early use of *venery*, or the leaving off such exercises, as they formerly indulged to a great degree: and who besides have had a voracious appetite, and used spirituous liquors immoderately, and afterwards quitted them, of a sudden, for those of a thin and cooling kind. (c)

Differs in its symptoms and manner of seizure in different persons.

4. When it seizes a person far advanced in years, for the first time, it never has such stated periods, nor proves so violent, as when it attacks a younger person, because (1.) he generally perishes before the disease accompanied with its natural symptoms, comes to its height; and (2) because the natural heat and vigour of the body being abated, it cannot be so constantly and powerfully thrown off upon the joints. But when it comes on sooner, tho' it may not yet fix on one part, nor prove so severe, but affect the patient occasionally, keeping no certain period, giving only a little pain for a few days, and coming on and going off without any order; yet it increases gradually, and goes on regularly, both with respect to the time of its coming, and the continuance of the fit, and rages more violently in its progress, than in its beginning.

How the regular gout begins and proceeds.

5. I will first treat of the *regular gout*, and next of the *irregular one*; whether occasioned by an unadvised use of improper remedies, or the weakness of the subject. The *regular gout* generally seizes in the following manner: It comes on a sudden towards the close of *January*, or the beginning of *February*, giving scarce any sign of its approach, except that the patient has been afflicted, for some weeks before, with a bad digestion, crudities of the stomach, and much flatulency and heaviness, that gradually increase, till the fit at length begins; which however is preceded, for a few days, by a numbness of the thighs, and a sort of descent of flatulencies thro' the fleshy parts thereof,

along

(c) So hasty a change from one extrem to another, must needs weaken the constitution in a great degree in most persons, and consequently may dispose them to the *gout*, or other *chronic* diseases, according as they have a tendency to any particular distemper, and thus a greater evil may be occasion'd than the change is intended to prevent. Such steps, therefore, are not to be taken without good advice, and the alteration is then to be made slowly and gradually.

along with convulsive motions; and the day preceding the fit the appetite is sharp, but preternatural. The patient goes to bed, and sleeps quietly, till about two in the morning, when he is awakened by a pain, which usually seizes the great toe, but sometimes the heel, the calf of the leg or the ankle. The pain resembles that of a dislocated bone, and is attended with a sensation, as if water just warm were poured upon the membranes of the part affected; and these symptoms are immediately succeeded by a chilness, shivering, and a slight fever. The chilness and shivering abate in proportion as the pain increases, which is mild in the beginning, but grows gradually more violent every hour, and comes to its height towards evening, adapting itself to the numerous bones of the *tarsus* and *metatarsus*, the ligaments whereof it affects; sometimes resembling a tension or laceration of those ligaments, sometimes the gnawing of a dog and sometimes a weight and constriction of the membranes of the parts affected, which become so exquisitely painful, as not to endure the weight of the cloaths, nor the shaking of the room from a person's walking briskly therein. And hence the night is not only passed in pain, but likewise with a restless removal of the part affected from one place to another, and a continual change of its posture. Nor does the perpetual restlessness of the whole body, which always accompanies the fit, and especially in the beginning, fall short of the agitation and pain of the gouty limb. Hence numberless fruitless endeavours are used to ease the pain, by continually changing the situation of the body and the part affected, which notwithstanding, abates not till two or three in the morning, that is, till after twenty four hours from the first approach of the fit; when the patient is suddenly relieved, by means of a moderate digestion and some dissipation of the peccant matter, tho' he falsely judges the ease to proceed from the last position of the part affected. And being now in a breathing sweat he falls asleep, and upon waking finds the pain much abated and the part affected to be then swell'd, whereas, before, only a remarkable swelling of the veins thereof appeared, as is usual in all *gouty fits*.

The next day, and perhaps two or three days afterwards, if the *gouty matter* be copious the part affect-

ed will be somewhat pained, and the pain encrease towards evening, and remit about break of day. In a few days it seizes the other foot in the same manner; and if the pain be violent in this, and that which was first seized be quite easy, the weakness thereof soon vanishes, and it becomes as strong and healthy, as if it had never been indisposed: nevertheless, the *gout* affects the foot just seized, as it did the former, both in respect of the vehemence and duration of the pain: And sometimes, when there is so copious a peccant matter in the beginning of the fit, that one foot is unable to contain it, it affects both at the same time with equal violence; but it generally attacks the feet successively, as above remarked. When it has seized both feet, the following fits are irregular, both with respect to the time of seizure and their continuance, but the pain always increases in the evening, and remits in the morning: and what we call a *fit of the gout*, which goes off sooner or later, according to the age of the patient, is made up of a number of these small fits. For when this disease lasts two or three months, it is not to be esteemed one continued fit, but rather a series or assemblage of little fits, the last of which proves milder and shorter, till the peccant matter being at length quite expelled, the patient recovers; which, in strong constitutions, and such as seldom have the *gout*, often happens in fourteen days; and in the aged, and those that have frequent returns of the disease, in two months; but in such as are more debilitated, either with age, or the long duration of the distemper, it does not go off till summer advances, which drives, it away.

During the first fourteen days the urine is high-coloured, and after separation lets fall a kind of red gravelly sediment, and not above a third part of the liquids taken in is voided by urine, and the body is generally costive during this time. The fit is accompanied throughout with loss of appetite, chilness of the whole body towards the evening, and a heaviness and uneasiness even of those parts that are not affected by the disease. When the fit is going off, a violent itching seizes the foot, especially between the toes, whence the skin peels off as if the patient had taken poison. The disease being over, the appetite and strength return sooner or later, according as the immediately preceding fit hath been

been

been more or less severe, and in consequence of this the following fit comes on a shorter or longer space of time; for, if the last fit proves very violent, the next will not attack the patient till the same season of the year returns again. (d)

6. In this manner does the *regular gout*, accompanied with its genuine and proper symptoms, appear: but when it is exasperated, either by wrong management or long continuance, so that the substance of the body is in a manner changed into supplies for the disease, and nature unable to expel it according to her usual way, the symptoms differ considerably from those just described. For, whereas the pain hitherto only affected the feet (which are the genuine seat of the morbid matter, which, whenever it attacks any other part, clearly proves either that the course of the disease is obstructed, or the strength gradually impaired) it now seizes the hands, wrists, elbows, knees, and other parts; no less severely than it did the feet before. For sometimes it renders one or more of the fingers crooked, and motionless by degrees, and at length forms stony concretions in the ligaments of the joints, which destroying both the scarf-skin and the skin of the joints, stones not unlike chalk, or crabs eyes, come in sight, and may be pick'd out with a needle. Sometimes the morbid matter is thrown upon the elbows, and occasions a whitish swelling, almost as large as an egg, which becomes gradually inflamed and red. Sometimes it affects the thigh, which seems to sustain a great weight, yet without much pain; but thence gaining the knee it attacks that part more violently, depriving it of motion, so as to nail it in a manner to the same place in bed. And when it is necessary to move the patient, either on account of the restlessness of the whole body, which is so frequent in this disease, or some other urgent cause, it ought to be done with great caution, as the least contrary motion, or shock, may perhaps give

G g 2

pain

(d) This is the most accurate history of the beginning and progress of the *regular gout* which has yet been published; and being exactly copied from nature, will appear in most subjects the same with little variation. The exactness of our excellent author in the descriptive part, may justly be proposed to all future writers on the art of medicine, as a model worthy of their closest imitation. The skilful *Hoffman* has inserted this history of the *gout* at length in his essay in this disease, not being able to furnish out a better.

pain, which is only tolerable for this reason, because it soon goes off. And, indeed, this moving of the patient, which should be performed with such care and tenderness by the assistants, is no inconsiderable part of the evils which attend the *gout*; for the pain is not very violent the paroxysm throughout, in case the part affected be kept quiet.

It continues most part of the year.

7. As the *gout* formerly did not usually come on till the decline of winter, and went off in two or three months; in the present case, it continues all the year, excepting two or three of the warmest summer months. And it is further to be observed, that as the *cardinal* or *general fit* continues longer now than it did heretofore, so likewise those *particular fits*, of which the *general one* is made up, rage a longer time; for, whereas one of these did not last above a day or two before, it now, wherever it fixes, does not go off till the *fourteenth day*, especially if the feet or knees be affected thereby. To this may be added, that the patient 'on the first or second day after its coming, besides the pain, is afflicted with sickness, and a total loss of appetite.

The intervals shorter, and attended with great weakness.

8. In the last place, before the disease came to such a height, the patient not only enjoyed longer intervals between the fits, but likewise had no pain in the limbs, and the other parts of the body, all the bodily functions being duly performed; whereas now his limbs, during the intermission of the disease, are so contracted and disabled, that tho' he can stand, and perhaps walk a little, yet it is very slowly, and with great trouble and lameness, so that he scarce seems to move at all; and, if he endeavours to walk beyond his strength, in order to recover the use of his feet, the stronger they grow, and the less liable they are to pain upon this account, so much more does the morbid matter (not wholly dissipated during this interval) threaten the bowels, to the endangering the patient, as it cannot be so freely thrown upon the feet, which, in this state of the disease, are never quite free from pain.

And other bad symptoms.

9. Moreover, the patient is likewise afflicted with several other symptoms; as a pain in the hemorrhoidal veins, nauseous eructations, not unlike the taste of the aliment last taken in, corrupting in the stomach, happening always after eating any thing of difficult digestion, or no more than is proper for a healthy person together with

loss of appetite, and a debility of the whole body, or want of spirits; which render his life melancholy and uncomfortable. The urine, which was before high-coloured, especially in the fits, and voided in a small quantity, now resembles that which is evacuated in a *diabetes*, both in colour and quantity; and the back and other parts itch much towards bed-time.

10. And when the disease is become inveterate, after yawning, especially in the morning, the ligaments of the bones of the *metatarsus* are violently stretched, and seem to be squeez'd with great force by a strong hand. And sometimes, tho' no yawning has preceded, when the patient is disposing himself to sleep, he feels a blow of a sudden, as if the *metatarsus* were breaking in pieces by a large stick, so that he wakes crying out with pain. The tendons of the muscles of the *tibiæ* are sometimes seiz'd with so sharp and violent a convulsion, or cramp, that if the pain it occasions were to last only a short time, it could not be borne with patience.

11. But after many racking pains, the following paroxysms become less painful, as an earnest of the delivery which approaching death is about to give, nature being in part oppressed by the quantity of the morbid matter, and in part by old age, so as not to be able to propel it constantly and vigorously to the extremities; but, instead of the usual external pain a certain sickness, a pain in the belly, a spontaneous lassitude, and sometimes a tendency to a *diarrhoea* succeed. When these symptoms are violent, they ease the pain of the limbs, which returns upon their going off; and the paroxysms are much prolonged by this alternate succession of pain and sickness. For it is to be observed, that when the disease has continued several years, the pain diminishes gradually every fit, and the patient at length sinks rather from the sickness than the pain; which in these fits, tho' it be longer, is not near so violent as that which he usually suffered, when his strength was little impaired. But nevertheless this violence of the disease was ordinarily recompens'd by longer intervals between the fits, and the good state of health the patient enjoyed during the intermission. In effect, pain in this disease is the disagreeable remedy of nature, and the more violent it proves, the sooner the

fit terminates, and the longer and more perfect is the intermission; and so on the contrary.

The *gout* generative of the *stone* in the *kidneys*.

12. But besides the above-mentioned symptoms, *viz.* the pain, lameness, inability to motion of the parts affected, the sickness, and other symptoms above enumerated, the *gout* breeds the *stone* in the *kidneys* in many subjects, either (1.) because the patient is obliged to lie long on his back, or (2.) because the secretory organs have ceased performing their proper functions; or else (3.) because the *stone* is formed from a part of the same morbid matter; which however I do not pretend to determine. But from what cause soever this disease proceeds, the patient is sometimes at a loss to know whether the *stone* or the *gout* be most severe. And sometimes a suppression of urine caused by the *stone's* sticking in the urinary passage, destroys him, without waiting for the slow advances of its concomitant the *gout*.

And of great disorders of mind.

13. The patient is not only reduced to this helpless condition, but, to compleat his misery, his mind during the fit sympathizes with his body, so that 'tis not easy to determine which of the two is most afflicted. For every paroxysm may be as justly denominatèd a fit of anger, as a fit of the *gout*; the rational faculties being so enervated by the weakness of the body, as to be disordered upon every trifling occasion; whence the patient becomes as troublesome to others as he is to himself. Moreover he is equally subject to the rest of the passions, as fear, anxiety, and the like, which also torment him till the declension of the disease, when the mind is restor'd to health along with the body, having recovered its former tranquillity.

Whence it proves mortal.

14. To conclude: the *viscera* in time are so much injured, from the stagnation of the morbid matter therein, that the organs of secretion no longer perform their functions, whence the blood, overcharged with vitiated humours, stagnates and the *gouty matter* ceases to be thrown upon the extremities as formerly, so that at length death frees him from his misery.

Destroys more rich than poor, and learned than illiterate persons.

15. But, what is a consolation to me, and may be so to other *gouty* persons of small fortunes and slender abilities, is, that kings, princes, generals, admirals, philosophers, and several other great men, have thus lived and died. In short, it may, in a more especial man-

ner, be affirmed of this disease, that it destroys more rich than poor persons, and more wise men than fools; which seems to demonstrate the justice and strict impartiality of providence, who abundantly supplies those that want some of the conveniencies of life, with other advantages, and tempers its profusion to others with equal mixture of evil; so that it appears to be universally and absolutely decreed, that no man shall enjoy unmixed happiness or misery, but experience both: and this mixture of good and evil, so adapted to our weakness and perishable condition, is perhaps admirably suited to the present state.

16, The *gout* seldom attacks women, and then only the aged, or such as are of a masculine habit of body; for lean and emaciated women who, in their youth or riper age, are seized with symptoms not unlike the *gout*, receive them from *hysteric* disorders, or some preceding *rheumatism*, the morbid matter whereof was not sufficiently carried off in the beginning, nor have I hitherto found children, or very young persons, affected with the *true gout*. Yet I have known some who have felt some slight touches of it before they came to that age; but they were such as were begot by *gouty* parents (e). And let this suffice for the history of this disease.

17. Upon a thorough attention to the various symptoms of this disease. I judge it to proceed from a *weakened concoction* both of the solids and fluids (f); for

G g 4

(e) *Boerhaave* tells us that he has seen *gouty* children, and that women get this disease by lying with their *gouty* husbands. See his *prax. med. vol. v. p. 195.*

(f) This may perhaps dispose to the *gout*, as it will to other diseases both of the *acute* and *chronic* kind, but cannot be said in a strict sense to be the sole cause of any one distemper more than another. (g)

(g) The cause of an acquired *gout*, in those born of sound parents, seems to me, says *Dr Cheyne*, to be the abundance of tartarous, urinous, or other salts, introduced into the blood by the food. Salts seem neither to perish, nor to be begotten; but to be constant and incorruptible parts of animal and vegetable bodies. The delicacy and flavour of flesh and fish, is entirely owing to their abounding with a fine, soft, oily, or urinous salt, as is evident in venison and wild fowl. Wines of all kinds, have a greater or lesser quantity of tartar in them, and other strong liquors abound in their peculiar salts in proportion to their strength. Spirits are nothing but a great quantity of vegetable salts crowded together in a little water and oil. These salts receiv'd in abundance, but neither sufficiently broke by the digestive powers, nor driven out of the habit

Seldom
seizes wo-
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dren, or
very young
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The *gout*
occasioned
by a debili-
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such

by

such as are subject to it, being either worn out by old age, or having hastened this period of life by their debaucheries, labour under an universal paucity of animal spirits, occasioned by the immoderate use of the vigorous functions, in the heat of youth. For instance, by a too early, or excessive use of venery, by the vast and continual pains they take to gratify their passions, and the like: whereto must be added the quitting of such bodily exercises of a sudden as they had formerly used (whether thro' age or idleness) which served to invigorate the blood, and strengthen the tone of the solids; whence the strength decays, and the concoctions are no longer duly performed, but on the contrary the excrementitious part of the juices, which was formerly expelled by means of such exercises, lies concealed in the vessels to feed the disease. And sometimes the disease has been increased by a long continued application to some serious study; whereby the finer and more volatile spirits are called off from their proper function of assisting the concoctions.

And drinking wine too freely.

18. Again, such as are subject to the *gout*, besides having a voracious appetite in general, chiefly covet all kind of aliment that is hard of digestion, which, when they have eat as plentifully as they ordinarily did when they used exercise, they cannot digest. But this way of living does not occasion the *gout* so often as the excessive use of wine, which destroys the ferments designed for various concoctions, hurts the concoctions themselves and overcomes and dissipates the natural spirits, by reason of the abundance of adventitious vapours. Now the spirits, which are the instruments of concoction, being weakened, and the blood over-burthen'd with juices, at one and the same time, all the concoctions must needs be depraved, whilst all the *viscera* are so oppressed; whence the spirits that have long been in a declining state, are now quite exhausted. For if this disease proceeded only from a weakness of the spirits, it would equally affect children, women, and persons debilitated by a tedious illness: whereas the strongest and most

by due exercise, but by their plenty and nearness, uniting in greater clusters, must necessarily form obstruction, and give pain when by the force of the circulation they are thrust through narrower and stiffer small vessels, or capillaries. Nothing either received or bred within the body, besides these salts, can account for this difference. See his essay on the *gout* p. 4.

most robust constitutions are chiefly subject to it, but not before abundance of humours are collected in the body thro' the decay and waste of the natural heat and spirits, which in conjunction destroy the vitiated concoctions.

19. Again, as each of the causes we have enumerated promote indigestion, so most of them contribute in some measure to introduce a laxity of the habit and muscles of the body; which makes way for the reception of crude and indigested juices, as often as they are thrown upon the external parts. For when by lying long in the blood they are encreased in bulk, and have gained an ill quality, they at length acquire a putrefying heat, and, nature being no longer able to subdue them, become a *species*, and fall upon the joints, and by their heat and acrimony occasion exquisite pain in the ligaments and membranes that cover the bones; which being weakened and relaxed, either by age, or luxury and intemperance, easily admit them. But this translation of the humours occasioning the *gout*, and forming a *gouty* fit, happens sooner or later, according as these humours are occasionally put in motion.

20. I proceed now to the cure; in treating of which I shall first take notice of such things as are to be omitted. Now, in this disease, if regard be had to the humours, and the indigestion occasioning them, it should seem at first view, that the curative indications should principally tend (1.) to evacuate humours already generated, and (2) to strengthen the concoction, or digestive powers, so as to prevent the accumulation of other humours; these being the usual indications to be answered in most other humoral diseases. But nevertheless in the *gout*, nature seems to have the prerogative to expel the peccant matter according to its own method, and throw it off upon the joints, there to be carried off by insensible perspiration. Now there are only three ways proposed of expelling the morbid matter of the *gout*, namely, (1.) *bleeding*, (2) *purging*, and (3) *sweating*: but none of these will ever answer the end.

21. (1.) Tho' *bleeding* seems to bid fair for evacuating the humours immediately to be translated, as well as those already fixed in the joints; yet it manifestly clashes with that indication which the antecedent cause, *indigestion*, arising from a depravity or paucity of the spirits,

Hence a laxity of the habit and muscular system.

Bleeding, sweating, vomiting, and purging improper in the *gout*.

Bleeding why improper.

spirits, demands, which *bleeding* further weakens and diminishes; and for this reason it is not to be used either by way of preventing an approaching, or easing a present fit, especially in the aged: for tho' the blood that is taken away generally resembles *pleuritic* or *rheumatic* blood, yet *bleeding* is found to do as much mischief in this disease, as it does good in those. And *bleeding* in the interval, tho' long after the paroxysm, is apt to occasion a fresh fit, by the agitation of the blood and juices, which may continue longer, and be attended with more violent symptoms than the former, the strength of the blood being impaired thereby, by means whereof the morbid matter should have been powerfully and constantly expelled. This inconvenience always happens from *bleeding* in the beginning of the fit; and if it be used immediately after the fit, there is great danger (on account of the present weakness of the blood, and its not having recovered its former strength, diminished by the disease) of debilitating nature so much by the unseasonable use thereof, as to make way for a *dropsy*. Nevertheless, if the patient be young and over-heated by hard drinking, a vein may be opened in the beginning of the fit: but if *bleeding* be always used in the succeeding paroxysms, it will soon render the *gout* inveterate, even in youth, and cause it to spread more universally in a few years than it otherwise would have done in many. (g)

Why vomit
ing and
purging

21. (2.) With respect to *vomiting* and *purging*, it should be noted, that as it is a fixt law of nature, and inter-

(g) *Bleeding* in the intervals, in plethoric constitutions, is not only advantageous but necessary, and may be done with safety. Where the vessels are already considerably debilitated and relaxed from the manifold returns of the pain, an over-fullness must needs be highly detrimental, as it will put them upon the stretch, and consequently be a means of weakening their tone still more. Besides, it often happens that *gouty* persons have a sharp appetite in the intervals, accompanied with a quick digestion, whence of course they make a copious chyle, and surcharge the vessels, which require therefore to be emptied from time to time by *bleeding*, and other proper evacuations, that the fluids may have room to circulate more freely, the viscosity thereof be prevented, and the due tone of the vascular system preserved.

Dr *Hoffman* recommends cupping the bottom of the foot every three months, and says that he has known it highly serviceable in many persons, and found great benefit from it himself. *Hoff. oper. tom. ii. p. 346.*

interwoven with the essence of this disease, that the morbid matter thereof ought always to be translated to the joints, *emetics* or *cathartics* will only invite the *gouty* matter back into the blood, which was thrown off by nature upon the extremities; and hence what ought to be thrown upon the joints, hurries perhaps to some of the *viscera*, and so endangers the life of the patient, who was quite safe before. And this has often been observed to prove fatal to those who have ordinarily had recourse to *purgatives* by way of prevention, or, which is worse, to ease the pain in the fit; for when nature is prevented from pursuing her usual, safest, and best method of translating the morbid matter to the joints, and the humours are forced inwards upon the bowels, then, instead of pain in the joints, which is either slight, or none at all, the patient is almost, destroyed by sickness of stomach, gripings, faintings and a numerous train of irregular symptoms.

23. For my own part, I am abundantly convinced, from much experience, that *purgings*, either with mild, or strong, *cathartics* of that kind which are given to purge the joints, proves very prejudicial, whether it be used in the fit to lessen the morbid matter, or in its declension to carry off the remainder, or in a perfect intermission, or healthy state to prevent an approaching fit. For I have learnt at my own peril, as well as that of others, that *purgatives* exhibited at any of these times, have, instead of doing service, hastened the mischief they were intended to prevent. (1.) *Purgings*, therefore, during the fit, by disturbing nature when she is separating the *gouty* matter and throwing it off upon the joints, does sometimes eminently disturb the spirits which renders the fit more violent, and likewise much endangers the life of the patient. (2.) *Purgatives* administered at the end of a fit, instead of expelling the remains of the disease, occasion a fresh fit, as severe as the former; and thus the patient being deceived by fruitless hopes, brings those evils upon himself, which he had escaped if the humours had not been exasperated afresh. And this inconvenience I myself often experienced, after having had recourse to medicine to expel what I esteemed the remains of the distemper. (3.) As to *purgings* at certain times in the intervals by way of prevention, tho' it must be owned that there is not so
much

much danger of occasioning a fresh fit, as in the instance just mentioned, the patient in that case not being perfectly recovered; yet, even at this time, it is productive of a fit, for the reasons above specified; and tho' perhaps it may not come on immediately, the disease nevertheless will not go off entirely by taking any purge constantly at proper intervals. For I have known some *gouty* persons, who, to recover their health, not only purged spring and autumn, but monthly, and even weekly, and yet none of them escaped the *gout*, which afflicted them more severely afterwards, and was accompanied with more violent symptoms, than if they had totally forbore medicine. For tho' such *purging* might carry off a part of the *gouty* matter, yet as it does not at all contribute to strengthen concoction, but rather weakens it, and injures nature afresh; it only strikes at one cause, and is by no means adequate to the cure of the distemper.

24. To these observations must be added, that the same paucity of spirits which hurts the concoctions in *gouty* subjects, renders their spirits weak and languid, so that they are soon disturb'd by any cause which considerably hurries either the body or mind, and consequently are very volatile and dissipable, as they frequently are in *hysteric* and *hypocondriac* patients. And from this tendency of the spirits to irregular motions, it happens that the *gout* usually follows the slightest evacuation. For the tone of the parts being destroy'd, which the firmness of the spirits, so long as they continue strong, preserves unrelaxed and healthy, the peccant matter moves without interruption; and from this mischief done to the body a fit arises in a short time.

25. But notwithstanding this method is so very pernicious, yet there have been empirics, who have acquired a great character, by cunningly concealing the cathartic they used in this case. For it must be noted, that whilst the medicine operates, the patient feels no pain at all, or but a slight one; and if a course of *purgatives* can be continued for some days, without the intervention of a recent fit, the present fit will soon go off. But the patient will suffer greatly afterwards,

wards, by the sudden tumult occasioned by this agitation of the humours. (b)

26. (3) Finally, the carrying off the peccant matter by *sweat*, is manifestly prejudicial, tho' in a less degree than the above-mentioned evacuations; for tho' it does not repel the morbid matter to the *viscera*, but contrariwise propels it into the habit, it is notwithstanding detrimental for these reasons. (1.) Because, during the interval of the fit, it forces the humours, which are yet crude, and not fitted for a due separation, upon the limbs; and thus occasions a fit before its time, and in opposition to nature. (2.) The promoting sweat in the fit, throws and fixes the *gouty* matter too powerfully upon the part affected, at the same time occasioning intolerable pain; and if there be a greater quantity thereof than can be received by the part affected, it immediately throws it upon some other parts, and thus raises a violent ebullition of the blood

(b) *Sydenham*, says *Dr Cheyne*, otherwise a most accurate observer of nature, and a most judicious practitioner, has been the occasion, I think, of a great mistake in the management of the *gout*; by forbidding almost all evacuations either in the fit, or in the intervals, for fear of weakening the constitution. There are two seasons, to wit, spring and fall, when the periodical fits of regular *gouts* commonly happen; which I consider as cardinal and critical discharges, under general and mechanical influences, for purifying the blood, and discharging the *gouty* salts: in which nature is no more to be disturb'd in its operations (I mean as to purging, for even then a gentle, slow, constant, and uniform perspiration and breathing sweat may be promoted, not only safely, but with great advantage) than in the monthly purgations of the sex. But in the light flying touches of the *gout*, out of these seasons, and in the intervals of the fits, gentle, warm, stomachic purges will be an excellent remedy to send these a going, to lessen the fits, and lengthen the intervals. A person out of the pain and inflammation of the fits, and in their intervals (except his natural disposition to breed another fit) is, to all intentions of medicines, the same as a well person. And all medicines levell'd against other diseases incident to human bodies, may be as safely administered to a *gouty* (regard being had to his particular constitution) as to any other person. Wherefore, the general and direct methods of relieving the *gout* are, in the fits, a gentle, uniform, continued perspiration, and breathing sweat; in the intervals, labour, or exercise, and gentle, stomachic purges. See his *treatise on the gout*, p. 22, 23.

Some authors commend glysters to be thrown up occasionally in the fit; and certain it is, that if the fever be high, or the body cold, they may be used with safety, and all desirable advantage.

blood and other juices : and if the body abounds considerably with a serous matter generative of the *gout*, an *appoplexy* is hereby endangered.

27. Hence therefore, it is a very dangerous practice, both in this and in all other diseases, wherein a sweat is raised by art to evacuate the morbid matter, and it does not flow spontaneously, to force it out too violently, and beyond that degree of concoction, which the humours to be carried off have, spontaneously, acquir'd (i) The excellent aphorism of *Hippocrates*, intimating that *concocted and not crude matters are to be evacuated*, relates to *sweating* as well as *purging* (k); as appears manifestly from that sweat which ordinarily terminates the paroxysms of intermittents; which, provided it be moderate, and proportioned to the quantity of febrile matter, concocted by the preceding fit relieves the patient considerably : but if it be promoted beyond the limits prescribed by nature, by keeping the patient constantly in bed, a continued fever thence arises, and, instead of extinguishing the former heat, a new one is kindled. So in the *gout*, the gentle breathing sweat, that generally comes on spontaneously in the morning after each of the small fits, of which, as I have before observed, the cardinal fit is compounded, eases the pain and restlessness, which tormented the patient so much during the night; but contrariwise, if this gentle moisture, which is naturally of a short duration, be violently forced, and continued longer than the quantity of the morbid matter concocted by the preceding fit requires, the disease is thereby encreased. In this therefore, and all

(i) If *Sydenham*, as one observes, had never written more than this paragraph, he had merited thereby immortal honours : for nothing more pernicious can be contrived, than to force sweats by heating medicines. When the vital powers have rendered the morbid matter fit for expulsion, nature will find a method of discharging it out of the habit; and sweats, if they are necessary : will spontaneously arise, provided all obstacles are removed. It must be confessed that art may assist the vital powers in attenuating the mass of humour, and rendering them fit for a subsequent extermination. This, however, cannot be done by hot sudorifics. Warm remedies, it must be confess'd, considered as cordials, may possibly be of advantages in the latter end of some acute cases, as they may rouse the vital powers, and excite them to action, when too languid; but the great abuse of these, which has prevail'd to a surprizing degree, renders this note the more necessary, which does not so much relate to the *gout*, as to febrile disorders. See. p. 231. Note. (e)

all other diseases that I have met with, excepting only the *plague*, it is nature's province, more than the physician's, to excite sweat, as we cannot possibly learn how much matter is already prepared for such a separation, nor consequently what method is to be taken to promote sweat. (1)

28. Since then it evidently appears from what has been delivered, that it is both a fruitless and a pernicious attempt to endeavour to cure the *gout* by evacuating medicines, we are next to enquire what other purpose the curative indications are to be directed to answer. And from a thorough attention to all the symptoms above enumerated we learn, that regard must be had to two causes principally in the cure of this disease. (1,) The *antecedent* or *primary cause*, or the indigestion of the humours, proceeding from a defect of the natural heat and spirits; (2) the *containing* or *immediate cause*, of the heat and effervescence of these humours after the putrefaction and sharpness they have acquired by continuing too long in the body, occasioned by the indigestion above mentioned. Now these causes differ so much from one another, that the medicines which do service in the one, prove pernicious in the other; and hence it is that this disease is so difficult of cure. For at the same time that we endeavour to cure the indigestion by warm medicines, we run the risque on the other hand of encreasing the heat of the humours: and contrarywise, whilst we strive to mitigate the heat and acrimony of the humours by a cooling regimen or medicines we bring on indigestion, the natural heat being already impaired. But here, by the *containing cause*, I do not only mean that which is actually deposited in the joints, and forms the present fit, but that also which still lies concealed in the blood, and is not yet prepared for separation. For all the morbid matter is seldom so entirely expelled by the fit, how lasting and severe soever it be, as to leave no remains of it in the

The indigestion and heat of the humours to be principally regarded in the cure.

(1) A gentle, uniform, continued, breathing sweat, is by many authors recommended to be procured in the fit, on account of its being accompanied with a fever, and experience shews the usefulness of it, by the relief it ordinarily gives; for it abates the fever, purifies the mass of blood, and discharges the *gouty* humour gradually and insensibly. But the medicines exhibited with this view should be of the moderately warm diluting kind, and not too active and heating.

The chief thing to be done is to strengthen the digestive powers.

the body, after the fit is gone off; so that of course regard is to be had to this cause both in the fit, and during the intervals. But as the expulsion of the *containing cause* is entirely the business of nature, and to be performed according to her own method, and since nothing in the mean time can be done to cool the hot and sharp humours, without injuring the digestive powers, unless it be by avoiding a hot regimen and medicines, which inflame the humours; so doubtless the chief curative intention, is after the digestion is removed, to strengthen the digestive powers, which I shall now treat of; but in such manner however, that I may, in the course of this dissertation, as occasion offers, likewise mention those remedies which tend to mitigate the heat of the humours, and blunt their acrimony.

This intention best answered by a proper regimen, medicines and exercise.

29. Whatever remedies, therefore, assist nature to perform her functions duly, either (1.) by strengthening the stomach, so that the aliment may be well digested, or (2.) the blood, that it may sufficiently assimilate the chyle received into the mass, or (3.) the solids, so as to enable them the better to change the juices designed for their nutrition and growth into their proper substance, and (4.) lastly, whatever preserves the secretory vessels, and the emunctories in such a state that the excrementitious parts of the whole system may be carried off in due time and order. These, and all medicines of the same kind, contribute towards answering this intention, and are properly entitled *digestives*, whether they be of the medicinal or dietetic kind, exercise, or any other of those things, which are called the six *non-naturals*.

The medicines enumerated.

30. Such medicines in general are those which are moderately heating, bitter, or of a mild pungent taste, inasmuch as they agree well with the stomach, purify the blood, and strengthen the other parts. For instance, the roots of *angelica* and *elecampane*, the leaves of *wormwood*, the *lesser sentory*, *germander*, *ground-pine*, and the like: to which may be added, such as are commonly called *antiscorbutics*. as the roots of *horse radish*, the leaves of *garden scurvy-grass*, *water-cresses*, and the like. But these acrid and pungent herbs, how agreeable and beneficial soever they may be to the stomach, yet, as they agitate the morbid matter which has long been generated, and encrease the heat, are to be used more sparingly

ringly than those which by their mild heat and bitterness both strengthen the stomach and mend the blood.

31. And, in my opinion, a skilful mixture of some kinds of them answers the end of digesting the humours better than any single simple of this class. For though whenever we have occasion for the specific virtue of any medicine, it be a true axiom, that *the more simple it is, the better it is for the purpose*, yet when a cure is intended to be made by answering a particular indication, every ingredient contributes something towards curing the disease; and in this case, the more simples the medicine contains, the more powerfully it will operate (*m*). For this reason various forms of medicines may be elegantly compounded of the ingredients above enumerated, and the rest of the like kind. I give the preference to an electuary made after the manner of *Venice treacle*, because the fermentation of the simples together improves their virtues and produces a *third substance*, which possesses greater virtues in the mixture, than any single ingredient in the same quantity. But I freely leave the choice of such ingredients, and the forms in which they are to be given, to the judicious physician; for I never thought myself obliged to write what they term receipts, but rather to note the true curative indications: the non-observation of which caution has given empirics a handle to cry themselves up for the best physicians, as I have elsewhere observed. However, for the benefit of young physicians, I will communicate the medicine I generally use which is compounded in the following manner:

Take of the roots of angelica, sweet flag master-wort, elecampane, the leaves of wormwood, the lesser centaury, white hore-hound, germander, ground-pine, scordium, common calamint, feverfew wild saxifrage, St John's wort, golden rod, thyme, mint, sage, rue, holy thistle, penny-royal, southernwood, the flowers of camomile, tansy, lily of the valley, English saffron, the seeds of treacle mustard, garden scurvy-grass, carraway and juniper berries, of each a sufficient quantity. Let the herbs, flowers, and roots be gathered when they are in their utmost perfection.

Best given
in a com-
pound mix-
ture.

A digestive
powder.

H h

(*m*) Whether a medicine be the better for a mixture of a multiplicity of similar ingredients may in many cases be doubted; but certain it is, that to answer the same end by a few, well chosen, is a much greater proof of the ability of the prescriber.

fection; dry them in paper bags till they are reducible into fine powder. To six ounces of each, well mixed together, add enough of clarified honey and canary to make the whole into an electuary, of which let the patient take two drams morning and night.

A stomachic electuary.

Or for want of this, let the following be used.

Take of the conserve of garden scurvy-grass, an ounce and half; Roman wormwood and orange peel, of each an ounce; candied angelica and nutmeg, of each half an ounce; Venice treacle, three drams; compound powder of wake-robin, two drams; and with a sufficient quantity of the syrup of oranges, mix them up into an electuary. Let two drams of it be taken twice a-day, with five or six spoonfuls of the following distilled water after every dose.

An antiscorbutic distilled water.

Take of the roots of horse-radish, sliced, three ounces; garden scurvy-grass, twelve handfuls; water-cresses, brook-lime, sage and mint, of each four handfuls; the peel of six oranges; two nutmegs bruised; Brunswick beer, or mum, twelve pints; draw off only six pints by distillation.

Venice treacle a good medicine in this case, but not so good as the electuary above described.

32. Of all the medicines commonly known Venice treacle is the best for strengthening the digestive faculties; but as it contains many ingredients that over-heat and withal a large quantity of opium, an electuary like that above described may be more commodiously composed of the principal warming and strengthening plants. But care must be had to make choice of such simples, as are most agreeable to the patient's palate, because it must be continued a long time, namely, for the most part of his life. Of all simples the *Peruvian bark* is the best; for a few grains of it, taken morning and evening, strengthen and enliven the blood. (n)

Such medicines fer-viceable in most chronic diseases.

33. And in reality, these, and such-like medicines, which strengthen and enrich the blood (provided their heat be not owing to vinous spirits, for reasons hereafter to be given) do most service in this and most other chronic diseases; inasmuch as every disease of this kind

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(n) Of the same opinion is Dr Cheyne: among all the strengtheners of digestion I would recommend, says he, a strong infusion of the *jesuits bark* in generous claret, as being the coolest bitter, the most powerful strengthener of relaxed fibres in the instruments of digestion, and the greatest antidote of the urinous salts, especially if joined with *chalybeates*, and some qualifiers of its mawkish and nauseous taste. See his essay on the gout, p. 24.

is in my opinion to be referred to the same general cause; namely, *the indigestion of the humours*.

34. But as nothing can put this matter in a clearer light than the giving a view of the difference there is between *acute* and *chronic* diseases, it is hoped the reader will not be displeas'd, if I make a short digression from the present subject. As therefore those diseases are generally deemed *acute* which soon prove fatal, or are speedily brought to concoction; so these are entitled *chronic* distempers, which either require a long time to come to concoction, or never come to concoction at all. And this appears manifest, both from the nature of the thing, and the terms employed to express it; but the cause of the dissimilitude between these two kinds of diseases being less obvious, and not so easily discoverable, I conceive it will be worth while to spend some time in a research of this nature; since a clear and distinct notion of these particulars may greatly contribute towards discovering the genuine indications suited to the cure of these diseases.

Proved from the difference found between *acute* and *chronic* diseases.

35. Now, whether the inmost bowels of the earth (if the expression be allowable) undergo various alterations, so as to infect the air by the vapours thence arising, which seems very probable to me; or whether the whole atmosphere be infected by means of an alteration, resulting from a peculiar conjunction of any of the planets; certain it is, that the air sometimes abounds with such particles as injure the human body: as at another time it becomes impregnated with such particles as prove pernicious to some species of brutes. During this state of the air, as oft as we receive into the blood by breathing the poisonous corpuscles which are prejudicial to the body, and contract such epidemic diseases, as such tainted air is apt to produce, nature raises a fever, which is the ordinary instrument it employs to free the blood from any noxious matter therein contained. And these diseases are commonly esteem'd *epidemic diseases*, and are therefore *acute* and short, because their motion is so quick and violent. But besides these distempers produced by an external cause, there are others not less *acute*, which proceed from some peculiar inflammation of the blood, and which do not arise from any general cause depending on the air, but from some peculiar irregularity, or in-

Acute diseases, how cured.

disposition of particular persons. This kind of fevers, which happens in most years, I call *intercurrent* and *sporadic*.

Whence
chronic dis-
eases.

36. But *chronic* diseases are of a very different nature from these; for tho' a certain unwholsome air may greatly contribute to their production, yet they do not so immediately proceed from the air, but generally from the indigestion of the humours, the common origin of all these diseases. For when the *stamina vitæ* are much debilitated, and in a manner worn out either by age, or by remarkable and continued irregularities in the use of the six *non-naturals*, especially with relation to food and drink; or if the secretory vessels be so far weakened, as to be no longer able to perform their appointed functions of cleansing the blood, and carrying off its superfluities: in all these cases a greater quantity of humours being collected in the body, than can be digested by the strength of nature; these, by their long continuance in the vessels, undergo various fermentations and putrefactions, and at length appear in a species, occasioning different diseases, according as they are variously vitiated and depraved. And as these vitiated juices differ from one another, so they fall upon the particular part that is best fitted to receive them, and there they gradually manifest those numerous symptoms, which ordinarily proceed, partly from the nature of such juices, and partly from the irregular motion excited in the parts affected: both which causes, in conjunction, constitute that irregularity of nature, which is characterized with the nature of some disease.

37. Now that most *chronic diseases* chiefly proceed from such an inability of nature to concoct the humours, will manifestly appear, if we reflect that aged persons, whose digestive faculties are impaired, and their spirits, which are the instruments thereof, are wasted by the repeated functions of a long life, are more subject to these diseases than young persons, whose vital warmth is greater, and dissipates those foul humours which are amassed in the body, and whose secretory vessels are possessed of such a constant natural heat, that they may on no account fail of performing their functions of purifying the blood, unless they are burthened, and in a manner obstructed by an over-fullness of humours. And further, that such an indigestion of

of the humours is the cause of most *chronic diseases*, is clear from hence, that winter is much more apt to generate them than summer; notwithstanding that some do not actually shew themselves till the decline of winter, tho' the collection of humours whereon they depend, increases the winter throughout, becoming greater by the coldness of the season, and debilitating nature, so as to render her less able to perform the functions of the animal oeconomy.

38. Hence it is that such as enjoy a good state of health in summer, do notwithstanding rarely escape those diseases in winter, to which they are most subject; as for instance, the *gout, asthma, cough, &c.* And hence likewise we learn why travelling into *southern* countries, is so effectual to conquer those diseases, the cure whereof is fruitlessly attempted in a colder climate. The truth of what has been delivered concerning the general cause of *chronic diseases*, will be farther confirmed by the remarkable and almost incredible relief obtained by riding on horseback in most *chronic diseases*, but especially in a *consumption*. For this kind of exercise strengthens all the digestive powers, whilst it revives the natural heat by a continual motion of the body, and enables the secretory vessels to perform their function of purifying the blood in a proper manner; whence an amendment of the greatly debilitated digestions must needs follow, and, of course, a healthy state.

39. From the reasons therefore just alledged, it sufficiently appears that such *warm herbs* do great service, where there is no manifest contra-indication, not only in the *gout*, but in most *chronic diseases*, inasmuch as they procure a warmth like that of summer, even in the midst of winter: tho' if we accustom ourselves to use them in summer, they will more effectually prevent such diseases, as are ordinarily occasioned by the contrary season. And in reality, if we defer, or neglect taking them till the approach of winter, at which time a considerable quantity of humours is amassed, it is to be apprehended it may then be too late to have recourse to this refuge.

40. But tho' (as I have already shewn at large) the *gout* is of so peculiar a nature, as to be rendered worse by *cathartics*; yet in most other *chronic diseases* *bleeding* is to be repeated, as there is occasion, and purging to be

ordered before using the *strengthening* and *stomachic* remedies here commended: but when the patient has begun with them, they must be continued without any intermediate evacuations; for it is always to be remembered, that whenever the cure of any disease is attempted by means of strengthening remedies, all kinds of evacuations prove highly pernicious (*o.*) Lastly, I do not assert that the *stomachic* medicines just enumerated are the most excellent of the kind, but I maintain that whoever happens to discover the most effectual remedy to answer this intention, will be capable of doing much more service in *chronic* diseases than he can well imagine.

41. But amongst the remarks I proceed to communicate, on the cure of the *gout*, this is primarily and chiefly to be attended to, namely that all *stomachic* or *digestive* remedies, whether they consist of a course of medicines, a regimen, or exercise, are not to be entered upon in a heedless manner, but to be persisted in daily with great exactness. For since the cause in this and most other *chronic* distempers, is become habitual, and in a manner changed into a second nature; it cannot reasonably be imagined, that the cure can be accomplished by means of some slight and momentaneous change made in the blood and juices by any kind of medicine, or regimen, but the whole constitution is to be altered, and the body to be in a manner framed anew. For it is otherwise here than in some acute diseases where a person in full strength and good health is suddenly seized with a fever; whereas in the *gout*, a person by indulging himself in high feeding, hard drinking, neglecting his usual exercise for several years running, and wearing out his constitution by sloth and idleness, or by hard study, and close thinking, and other errors of life, does at length, in a manner purposely, injure the various ferments of the body, and oppresses the animal

(*o.*) This, without doubt, should be understood with some limitation; for it may not be only convenient, but even absolutely necessary to have recourse to gentle evacuants during a course of strengthening remedies, and they may be attended with considerable advantages. Circumstances must decide when and in what manner they are to be given, nor are we to be deterred from making a proper use of them, by a servile deference to any great name. How often, for instance, are they commodiously joined with the *bark*, *steel*, and the like medicines, and thus effect what could not be obtained by either separate;

mal spirits, which are the principal instruments of digestion, whence the vitiated juices, amassed in the habit, break out as soon as they come to their height, and do much mischief, relaxing the fleshy parts, and weakening the joints, so that they readily receive the humours thrown upon them. And in this manner a different constitution is formed by degrees, the original natural one being quite destroyed. And those fits which engross the attention, of indiscreet and unthinking persons, are no more in effect than the succession and order of symptoms resulting from that method which nature ordinarily employs to expel the morbid matter. Hence, therefore, 'tis a fruitless labour to attempt the cure of this disease by using any medicine or regimen occasionally: for since this habit is chiefly founded on, and consists in a weakness of all the digestions, and a relaxation of all the parts; both these disorders must be remedied, and the strength of the digestive powers as well as the tone of the parts restored and recovered by degrees to the former healthy state of the body. But tho' it may seem impossible to compass this end effectually, not only because any particular habit cannot easily be changed into a contrary one, but also, because old age, which ordinarily accompanies this disease, greatly obstructs this design; yet the cure is to be attempted as far as the strength and age of the patient will permit, who will have the *gout* more or less severely the farther he declines from, or the nearer he approaches this state. (p)

H h 4

42. Fur-

(p) This advice is founded on good sense, and the nature of things; for it would be preposterous to expect an inveterate and deeply rooted disease should immediately give way to medicine; but if it appears to be relieved, it ought to encourage the patient to persevere in the course he is in, as it must needs require a length of time for medicines to communicate their effects to the blood and juices, so as to charge them from a distempered to a sound state, and restore the solids to their due tone and motion. Is it likely a disease, which has perhaps been coming on several years, should go off in a few weeks? Whatever, therefore, be the ability of the physician, if the distemper be of long standing, it is impossible the patient should receive a cure in a short time; because, in such a case, there would be no proportion between the beginning, progress, declension, and termination of the disorder; whence it follows, that to render the attempt successful he must comply with the method prescribed, and pursue it with cheerfulness, courage and resolution to the end; freedom from pain, and the vigorous exercise of the rational faculties being an abundant recompence for a tedious and mortifying restraint, and health a valuable purchase almost at any rate.

Digestive remedies to be used chiefly in the intervals of the *gout*.

A suitable regimen to be joined with them.

42. Furthermore it is to be observed, that digestive remedies, either of the medicinal, or dietetic kind, are to be used chiefly in the intervals of the *gout*, and at as great a distance as may be from the subsequent fit. For age obstructs the cure so much, that the strengthening the digestive powers, the recovering the debilitated ferments of the body, and restoring the blood and *viscera* to their due healthy state, cannot be speedily accomplished, and requires a continued use of medicine.

43. But tho' these and the like remedies may do service, yet they are not able alone to answer this intention of strengthening; but need the joint assistance of such things as do not properly belong to medicine: it being an error to imagine that this, or any other *chronic* disease, can be cured by medicine only. (1.) Therefore, moderation in eating and drinking is to be observed, so as on the one hand to avoid taking in more aliment than the stomach can conveniently digest, and of course increasing the disease thereby, and on the other hand defrauding the parts, by immoderate abstinence, of the degree of nourishment requisite to keep up the strength, which will weaken them still more: either of these extremes being equally prejudicial, as I have often experienced both in myself and others. (2.) As to the quality of the food, tho' whatever is easy of digestion, singly considered, deserves the preference, yet regard must be had to the palate and appetite, because it is frequently found that what the stomach earnestly covets, tho' of difficult digestion, does, nevertheless, digest better, than what is esteemed of easier digestion, if the stomach nauseates it; but for this reason indigestible aliment should be used more sparingly. (3.) I am of opinion that the patient ought to eat only of one dish at a meal, because feeding on different sorts of flesh injures the stomach more than eating an equal quantity of any one kind: but excepting flesh he may eat other things at pleasure, provided they be not sour, salt, or spiced; because, tho' such food does not hurt digestion, it nevertheless does mischief by putting the morbid matter in motion.

Only one meal a day necessary.

44. As to the times of eating, only dining is necessary; for as the night should seem peculiarly designed to digest the humours, it would be wrong to waste that time

time in digesting the aliment. For this reason *gouty* persons should forbear suppers, but they may drink a large draught of *small beer*, as being generally subject to *the stone in the kidneys*; the growth whereof is considerably obstructed by drinking such a liquor at this time, as it cools and cleanses the kidneys. (9)

45. A *milk-diet*, or the drinking milk, either as it comes from the cow, or boiled, without adding any thing to it, except perhaps a piece of bread once a day hath been much used these twenty years past, and hath done more service in abundance of *gouty* subjects, whilst they persist in it exactly, than all other kinds of remedies. But upon quitting it, and returning to the ordinary way of living of healthy persons, tho' they used the mildest and slenderest diet, the *gout* immediately returned with more violence than ever; for as this regimen weakens the constitution, the patient cannot so well struggle with the distemper, whence of course it proves more dangerous and lasting. Whoever, therefore, intends to pursue his regimen, ought before-hand to consider maturely, whether he be able to preserve in it for life, which perhaps he will find too much for him, tho' he should be a person of great resolution. For I knew a nobleman, who, after living a whole year on milk only with much pleasure, during which time he had one or more motions every day, was constrain'd to leave it off, because he grew costive on a sudden, the temper of his body altered, and his stomach at length nauseated *milk*, tho' he had still a liking to it. Again, it is observable that some *hypochondriac* persons of a gross habit of body, or those who have been long used to drink spirituous liquors freely, cannot bear milk. And further, the short and fleeting benefit which those who can bear milk receive from this regimen, is not only derivable from its exceeding simplicity, whence I doubt not but water-gruel may have the same effect, provided the stomach will bear it, but from its rendering the blood softer and smoother, by blunting the sharp particles contained in the mass: and moreover, which I esteem the principal thing,
milk

A *milk diet* more hurtful than serviceable.

(9) This may perhaps chill some stomachs, and breed acidities, whence a draught of small white wine whey, drank warm, or something of the like kind, should seem a much better liquor for this purpose.

milk being an aliment that is absolutely unfit for grown persons, represses that turgescence or plenitude of the humours which occasions the *gout*; and for this reason the few with whom it agrees, escape this disease, so long as they live upon *milk* only, but no longer. For as it runs directly counter to the original cause of the *gout*, which is the debility of the digestions and ferments, it does much more mischief in this respect than benefit in the other. And for want of attending sufficiently to this particular, some inconsiderate persons have fallen into gross and manifestly fatal errors; having, by attempting to conquer the containing cause of the disease, namely, the heat and acrimony of the humours, destroyed the digestions, and all the natural functions. (r)

Small beer
the best li-
quor in the
gout.

46. As to liquors, those are best, in my opinion, which are weaker than wine, and not so weak as water; such as our *London* small-beer hopp'd, or unhopp'd, extremes on either hand being pernicious. For, (1.) as to *wine*, tho' the common proverb intimates that whe-

ther
(r) Much has been said for and against a *milk diet* in this and other *chronic* diseases by practical writers, so that it must be left to further experience to determine the affair. It were to be wished, that both parties had communicated their observations of the good or ill effects of it with candour and accuracy, enumerating the circumstances under which it was given, and what happened during the course, and thus we might by this time have learnt the reasons of its success or failure, and accordingly been able to determine with some sort of certainty in what subjects it is to be used, and with what cautions, so as to answer the desired end; and, on the contrary, where it is absolutely improper, and likely to do mischief.

Perhaps more have been hurt than reliev'd by it, for want of this kind of experimental knowledge. In general, it is observed to weaken the digestive powers, and consequently impoverish the blood and juices, whence proceed troublesome inflations of the stomach, obstructions of the *viscera*. a paucity and lowness of spirits, and abundance of *hypochondriac* symptoms especially in aged and weak persons, which frequently prove as obstinate, and more afflicting than the original disorder. Besides the *gout* may by this means be repelled, and fix'd upon some of the internal parts, for want of sufficient strength in the constitution to throw it upon the extremities, which is always accompanied with great danger, and doubtless has prov'd fatal in many cases. Or otherwise, it may only tend to keep off the *gout* for a time, and by debilitating nature in a great degree, render the patient less able to bear up under it for the remainder of life. In reality, I fear it will be found only a *palliative* cure at best; so that it deserves to be well considered, whether, in order to obtain a temporary relief, it be worth running the hazard of the dangerous consequences often attending it.

ther a person does, or does not drink wine, he will have the *gout*; yet it is certain, and confirm'd by the experience of abundance of *gouty* patients, that wine is in fact detrimental. For tho' it may be supposed to do service by strengthening the digestive powers, the weakness whereof I have long look'd upon as the antecedent or *primary* cause of the *gout*; yet, with respect to the containing cause thereof it must be deemed wholly pernicious, because it enflames and agitates the humours, which feed the disease. Neither do we grant that *wine* used by way of common drink helps digestion, but rather assert, that it destroys it, unless in such as have drunk it for a long time. For tho' wine may, in passing thro' the vessels, communicate some heat of the parts, yet it certainly depraves the ferments of the body, and wastes the natural spirits: and hence, I conceive, it is, that great drinkers generally die of the *gout*, *palsy*, *dropsy*, and other cold diseases. Furthermore, the continued and immoderate use of wine relaxes and enervates the body, rendering it like the bodies of women; whereas moderately heating liquors strengthen the tone of the parts; whence such as have always drunk small liquors are rarely afflicted with the *gout*. It must further be noted, that those are chiefly subject to this disease, who, tho' they have naturally a weak digestion, do, notwithstanding, receive too much nourishment from a certain richness of the blood, and grow more bulky by a kind of indigested matter, instead of a solid, wholesome substance. And the use of wine adds to this richness of the blood, and so not only amasses a new collection of matter but also actually occasions the disease, by stirring up the cause of it, which had long lain concealed and inactive. Again, as the blood of *gouty* subjects nearly resembles that which is taken away in a *pleurisy*, and other inflammatory diseases, it is absurd to inflame it more with spirituous liquors. And it is as dangerous on the contrary to have recourse to over-cooling liquors; which, by utterly destroying both the digestions and natural heat, do more mischief, not occasioning pain, as wine doth, but death itself; as experience shews in those persons who having used themselves to drink wine freely from their youth upwards to old age, and quitted it of a sudden for

water

Wine con-
demned.

water or small liquors, have soon destroyed themselves thereby. (s.)

47. *Gouty* persons should therefore make it a rule in this particular, to drink such liquors as will not inebriate, if drank in a large quantity, or injure the stomach by their chilness. Of this kind, as I before hinted, is our *small-beer*; and in other countries a similar liquor may be made by diluting wine well with water.

Water bad for the aged, but may be safely drank by young persons.

As to *water* alone, I esteem it crude and pernicious, and have found it so to my cost; but young persons may drink it with safety, and it is at this day the common drink of the greatest part of mankind, who are happier in their poverty, than we are with all our luxury and abundance. This is confirm'd by the great multitude of diseases which we are afflicted upon this account, as the *stone*, *gout*, *apoplexy*, *palsy*, &c. besides the injury done to the mind, in being drove from its natural rectitude, by the disturbance which the fiery spirits of such liquors, together with the animal spirits which assist the thinking powers occasion, by volatilizing the mind too much, and suggesting vain and idle notions, instead of solid and weighty reasonings, and thus at length rendering us drolls and buffoons instead of wise men; between which the difference is almost as great, as between a substance and a shadow.—But enough of this.

An inveterate *gout* incurable without refraining all fermented liquors.

48. But tho, a person who has the *gout* mildly and only at intervals, need only use *small-beer*, or *wine* diluted with water; this degree of the disease not requiring a stricter regimen; yet when the whole substance of the body is in a manner degenerated into the *gout*, it cannot be conquered without a total abstinence from all kinds of fermented liquors, how small and smooth soever they be; inasmuch as all liquors of this kind contain a pungent spirit, with some degree of acrimony; and, what is worse, being possess'd of a ferment, they dispose the humours to a perpetual fermentation, in the same manner as yeast added to malt-liquors communicates its fermenting quality to the whole liquor. For this reason a *diet-drink* is to be ordered for common drink, to be made of those ingredients which are commonly known and used for this purpose; but it must not be

A diet-drink commended.

(s) If it be a fault to live too low in persons subject to the *gout*, as experience abundantly manifests, it should seem proper and even necessary to allow a moderate use of wine, in such as are advanc'd in years, have cold stomachs, or a few spirits.

be too strong, because in that case it will inflame the humours as much as wine; neither, on the contrary, must it be so small as to injure the natural functions by over-cooling. And this kind of drink, provided it be made of such ingredients as the patient most likes, tho' it may occasion some loathing for the first week or fortnight, does nevertheless prove as agreeable afterwards, as any other liquors he has been used to drink. It will likewise quicken the appetite, and render it more natural than it used to be with fermented liquors: and will be attended with this further convenience, that whoever uses it for his common drink, may indulge more freely in other kinds of diet, than when he drank wine, or beer: for the errors in point of diet, which it is hardly possible to avoid entirely, will be in some measure corrected and amended thereby. But the principal benefit derivable from it, is its being preventive of the *stone*, which is the general attendant of the *gout*; as all sharp and attenuating liquors both contribute to breed the *stone*, and occasion a fit thereof. I prefer the following decoction for its agreeable colour and taste.

Take of sarsaparilla, six ounces; saffra wood, china A dietetic root and the shavings of hartshorn, each two ounces; decoction, liquorise-root, an ounce; boil them together in two gallons of spring-water for half an hour; afterward infuse them upon hot ashes close cover'd for twelve hours; then boil them till a third part of the liquor is exhaled; and as soon as it be taken off the fire, infuse therein half an ounce of anniseeds for two hours; lastly strain it off, and let it rest, till it becomes clear, and put it into bottles for use (t.)

49. 'Tis

(t) *Sarsaparilla* is subdorific, and divides and attenuates gross and viscous humours, whence it comes to be accounted a *specific* in the *gout*, *palsy*, and other inveterate *chronic* disorders.

But Dr *Cheyne* observes, that its principal virtue lies in the bark: that which I would particularly recommend here, says he, is, a weak decoction of the BARK of *sarsa* root (in the BARK the virtues of the plant chiefly consist) for being replenished with most part of, if not all the juice-circulating vessels, it contains all its salts, and most active parts; and being spongy and tender, it is thereby more easily digested: and were roots are most in use, the BARK of the root is more eminently useful, for the reasons assigned: as also because towards the end of the *autumn*, when roots are gathered, the cold has already driven the juices into their BARK. See his *essay on the gout*. p. 42.

When to be entered upon.

49. 'Tis properest to begin with this decoction, immediately after the fit of the *gout* is gone off, and it must be continued, both in the fit and intervals, during the remainder of life. For it is not sufficient at a time when the disease actually rages to study for new medicines, as nature, whilst the humours are in such commotion and disturbance, cannot well bear the exchange of fermented liquors, of an active and spirituous quality, for such as are small and without spirit. At the same time the above-mentioned electuary must be taken every day, both in the fit and in the intervals; for the warmth of this will in some measure correct the smallness of the diet-drink, as it will communicate a due degree of heat to the blood and *viscera*, without the agitation which is generally occasioned by the heat of fermented liquors. (*u.*)

Arguments in favour of a total abstinence from wine and fermented liquors.

If wine be necessary, Spanish wine is best.

50, If it be objected, that a total abstinence from wine and other fermented liquors would render life in a manner insupportable, I answer, it must be considered, whether it be not much worse to be tortured daily by the pain accompanying an inveterate *gout* (for when it is gentle there is no need of so strict a regimen) than to be confined to this decoction; which, if the patient continues, he may indulge himself in most other kinds of aliments; not to repeat now, that this drink, like all other things, grows pleasant by custom. Doubtless, whoever hath had this disease, if he is not void of reason, will not hesitate at all to which to give the preference. (*w.*)

51. But notwithstanding, if the patient, either (1.) from a long continued and immoderate use of intoxicating liquors; (2) or by reason of old age; or (3.) great weakness, cannot digest his food, without wine, or some other fermented liquor; 'tis certainly dangerous for

(*u.*) See above, par. 31.

(*w.*) Dr *Cheyne* prefers the following diet drink from experience in this case to all other kinds of beverage.—Take of raspings of *guaic* two pounds, (or rather of its *bark* one pound) a pound loaf of bread much baked, hot from the oven, a pound of unbruised *Juniper berries*, six *Seville oranges*, roasted and sliced, and a pound of dispumated honey: put all these in a six gallon pipkin, and pour on them six gallons of boiling water, let them stand six weeks in a warm corner of a room with a fire; strain them off thro' a fine lawn on the cock into well-cork'd bottles for constant drink.

for him to leave off wine on a sudden; an error that has in reality destroyed abundance of people. Such a person, therefore, in my opinion, should either not use the *dietetic apozem* above prescribed; or, if he be resolved to take it, should accustom himself to it by degrees (drinking a glass of wine for some time at meals) and rather by way of medicine than diet, till it becomes more familiar to him. But *Spanish* wine is to be prefer'd here to *Rhenish*, or *French* wine; these last being apt to exasperate the humours, and increase the morbid matter, notwithstanding they are very grateful to the stomach (x.) To which we may add, that as they are almost as 'crude and indigested as our cyder, they are consequently not so warm and cordial, as the case demands. And these particulars shall suffice concerning the diet of *gouty* persons.

52. There is another caution to be inculcated, which, tho' it may seem trifling, is of great moment, both in order to digest the *gouty* matter during the fit, and also to prevent the generation thereof in the intervals; and that is, going to bed early, especially in winter. For, next to bleeding and purging, nothing impairs the strength more than sitting up late a-nights; which every valetudinarian can affirm from his own experience, provided he has only carefully observed how much more vigorous and chearful he rose in the morning when he went to bed early, and how languid and faint he has found himself after sitting up late. And tho' there may seem to be no difference betwixt going to bed earlier or later, provided a person lies in bed the same number of hours; as, for instance, whether he goes to bed at nine and rises at five, or at eleven and rises at seven; yet it is not so. and, I conceive, for this reason principally, namely, that in the day the spirits are dissipated, either by exercises of the body or mind, which are so weak, in sickly persons, that they require the assistance of sleep earlier in the evening

(x) The same author gives the preference to *French* wines in this disorder; and observes, that those who live very temperately, and drink but a few glasses after meals, may content themselves with old *Spanish* or *Portugal* wines, but the *gouty*, who live more freely, ought certainly to chuse generous *claret*, though it be custom only makes either necessary in any quantity; and they who are averie to, or fly pain at any rate, must content themselves with old *Portugal* wines only.

vening; and, as the approach of night occasions a kind of relaxation of the animal œconomy, the tone of which was kept up in the day by the heat of the sun, the warmth of the bed becomes necessary to supply the place of the sun, especially in the winter season. But the spirits being refreshed and invigorated in the morning by the preceeding night's sleep, together with the warmth of the bed, and the ensuing day likewise strengthening the tone of the parts still more, the rising early at this time, tho' it may take an hour or two from the morning sleep, hurts the constitution less than sitting up an hour or two later in the evening. For this reason I would advise such as are subject to the *gout* to go early to bed, especially in the winter, and to rise betimes in the morning; tho' their having had less sleep than usual may incline them to lie longer, in order to get it up. For the sleep which is got in the morning will rob them of as much the next night; and thus at length by doing violence to nature, and despising its wise dictates, the night may be preposterously turned into day, and the day into night.

The mind
to be kept
easy.

53. The patient must likewise use his utmost endeavour to keep his mind easy, for all disquieting passions, if they once become immoderate, greatly dissolve the texture of the spirits, which are the instruments of digestion, and so of course encrease the *gout*. (y.) He should, therefore wisely reflect on his mortality, and not vainly imagine he is to escape the evils that are necessarily

(y) Whoever, says *Hoffman* would live free from gouty pains, ought to refrain from weighty cares, the labours of the mind, much thought, anxiety and sollicitude. All immoderate passions of the mind, eminently and speedily disturb the regular healthful functions of the body, and throw the animal œconomy into disorder and confusion, by more than ordinarily accelerating or retarding the circulation, as either the raising or depressing passions take place, and thus not only occasion a great variety of obstinate and dangerous diseases, but likewise dispose us much more to the attacks of those, to which we are subject from other causes.—'Tis of exceeding great moment, therefore, to the general health of the body, to use our utmost endeavours to keep the mind tranquil, easy, and chearful, to render the passions subservient to reason, and mild philosophy, and to restrain them within the limits assigned them by religion; and more particularly so to those whose frame is weakn'd, and constitution impair'd by some deep-rooted chronic disorder, and who must consequently be so much more grievously injured by every pernicious excess of this kind.

cessarily annexed to this state. For, whether any affliction of mind befalls him thro' his own fault, or that of others, certain it is that he will never be able to prescribe laws to the world, which has not always obey'd any single person hitherto, how powerful and wise soever he hath been; nor will every thing always answer any body's expectations so exactly, as he vainly hop'd they would; but whilst he is engaged in regulating his affairs, of a sudden he becomes an example of human frailty, and unreasonably deprives himself of the transitory enjoyments of life. Too much application to study and business is likewise equally pernicious; for as this disease is oftener accompanied with melancholy than any other, such as are subject to it ordinarily fatigue and oppress the spirits to that degree, by long and intense thought, without the artificial help of reading, so that the body cannot longer preserve itself in a healthy state: and hence I conceive it is, that few fools have had the *gout*:

54 But nothing so effectually prevents the indigestion of the humours (which I esteem the principal cause of the *gout*) and consequently strengthens the fluids and solids, as *exercise*. It must, however, be observed, as I have already mentioned, that as there is more necessity for making a thorough change in the constitution in this than in any other *chronic* disease, so exercise, unless it be used daily, will do no service; for if it be intermitted at times, it will avail little towards changing the constitution now reduced to a languishing and tender condition by idleness and indulgence, and may perhaps do mischief by causing a fit, after leaving it off for a considerable space of time. But exercise should be moderate, because the contrary in aged persons, who are chiefly subject to the *gout*, waists the spirits too much, and consequently hurts the concoctive powers, which are strengthened by continued and gentle exercise. And tho' a person may think this hard, who, besides old age, inability to motion, and indolence, which is in a manner natural in this disease, is likewise tormented with pain, yet, if exercise be omitted, all the remedies which have been hitherto discovered will not at all avail. And as the intervals between the fits cannot be long, without constant exercise, so the patient will likewise be more

Exercise
admirable
in the *gout*;

The chalky
concretions en-
crease
without
exercise.

subject to the *stone*, which is a more dangerous and painful disease than the *gout*. (z)

55. To these we subjoin another momentous particular, namely, that the chalky concretions are considerably encreased in the joints, and especially in the fingers, by long inaction; so that at length these parts quite lose their motion. For however positively some may assert, that the matter of these concretions is only the *tartar* of the blood translated to the joints, it will nevertheless easily appear, upon considering the thing with a little more attention, that when a large quantity of indigested *gouty* matter falls upon some of the joints, and occasions a lasting swelling of the neighbouring parts, it happens at length, partly from their assimilating property being destroyed, and partly from the obstruction caused therein by this sluggish humour, that this matter is generated, which is changed into this kind of substance by the heat and pain of the joint, and encreases every day, converting the skin and flesh of the joint into its own nature, and may be pick'd out with a needle, and resembles *chalk*, *crabs eyes*, or some similar substance. But I have experienced in my own particular, that not only the generation of these concretions may be prevented by daily and long continued exercise, which duly distributes the *gouty* humours throughout the whole body, that otherwise readily attacks a particular part, but it also dissolves old and indurated concretions, provided they be not come to such a degree, as to change the external skin into their substance.

Riding on
horseback
the best
kind of ex-
ercise.

56. As to the kind of exercise, *riding on horseback* is certainly the best, provided it be not contra-indicated by age, or the *stone*: and indeed I have often thought, if a person was possess'd of as effectual a remedy as exercise is in this and most *chronic* diseases, and had the art likewise of concealing it, he might easily raise a considerable

(z) Exercise, says the same judicious writer, should be recommended to the *gouty*; for this gives strength and firmness to the parts, promotes perspiration, dissipates crudities, best conduces to change the habit of the whole body, and most effectually cleanses the blood, as by promoting all the secretions, it separates the foul, saline, sulphureous parts of the fluid thro' the proper strainers. But they should use moderate, and not too violent exercise, as riding in a coach, walking, and frequently going up stairs and down.

considerable fortune. But if riding on horseback cannot be used, frequent riding in a coach answers almost as well; and in this respect, at least, the generality of *gouty* persons have no cause to complain, because their riches, which induce them to live in such a luxurious way as occasions the disease, enable them to keep a coach, in which they may take the air, when they cannot ride on horseback. It must be noted, however, that a healthy air is vastly preferable to an unhealthy one for this purpose; thus the country is better than the town, where the air is full of vapours that exhale from the shops of different mechanics, and render'd still denser by the closeness of the buildings, as it is in *London*, which is esteem'd the largest city in the universe. But the great difference there is between using exercise in the country, or in town, a *gouty* person will soon find upon trial.

57. With respect to *venery*, if the *gouty* patient be in years, and so destitute of a sufficient share of spirits to promote the digestions, and his joints and the neighbouring parts consequently too much debilitated and relaxed, without any assistant from this destructive quarter; in this case, I say, it is as imprudent for such a one, in my opinion, to indulge those pleasures, as it would be for a person, after having engaged to go a long journey, to spend all his stock of provisions before setting out (*a.*) Moreover, besides the mischief he does himself for want of restraining the languid inclinations of declining age, he loses the great privilege of enjoying that exquisite satisfaction, which by the particular indulgence of nature is reserved for the aged only, who, towards the period of their lives, are freed from the violence of those passions, which, like so many savage beasts, prey'd upon them perpetually in youth, the gratification of them being by no means an equivalent for the long train of evils, which either accompany, or follow it.—And let this suffice for the regimen.

Venery to be refrained.

58. But tho' a *gouty* person by carefully observing these rules, relating to diet, and the rest of the

The gout not perfectly curable by the method above specified.

I i 2

(*a.*) Whoever, says the abovemention'd author, is desirous to prevent the gout, or lessen the number of the fits, must refrain, as much as possible from *venery*, especially from an excessive indulgence of it, which is succeeded by pain, weakness and faintness; for it suddenly waists the finest spirits, weakens the head, and disorders the mind and the senses, and occasions tremors, and other spasmodic complaints.

naturals, may prevent violent fits, and so strengthen the blood and solid parts, as to free himself from that multitude of evils, which renders the disease not only intolerable, but in the end fatal ; yet, notwithstanding, after some intervals, he will sometimes be seized with the *gout*, especially towards the close of winter. For tho' in the summer season, whilst the tone and strength of the blood are encreased and preserved in that state by the heat of the sun, and perspiration goes on in a proper manner, the digestions must needs be much better performed than in winter ; yet, as the blood is weaken'd, and perspiration obstructed upon the approach of this season, there must needs be a copious indigested matter amass'd, which at length, by its long continuance in the habit, will form a *species*, manifesting itself by proper symptoms, and giving a fit upon the first occasion, either by the humours being put into motion by the nearer approach of the sun, the use of wine, violent exercise, or any other apparent cause.

The cure to be attempted only in the intervals so the fit.

59. 'Tis clear, from what has been delivered, that whoever undertakes the cure of this disease, must endeavour to make a thorough change of his habit of body, and restore it to its former constitution, as far as age and other circumstances will permit ; and this must be attempted only in the intervals between the fits. For when the morbid matter is not only generated, but already thrown upon the joints, it will be too late to endeavour to change it, or to expel it any other way ; since it must be expelled by that method only which nature points out, and the business is to be left entirely to her management. This practise obtains in the paroxysms of *intermittents* ; which for the same reason, we do not attempt to remove till the heat be over. For it is equally absurd to be solicitous to take off the heat, thirst, restlessness, and other symptoms of these fevers, as to think the *gout* is to be cured by endeavouring only to abate the symptoms whereas the cure is by this means obstructed and prolonged. For the more the pain is eased, the more the concoctions of the humours are prevented ; and in the same degree the lameness is relieved, and the expulsion of the morbid matter is check'd. Again, the more the violence of the fit is suppress'd, the longer it will last, and the shorter likewise the interval will be between the fits, and less free from

from every degree of the symptoms accompanying this disease; which will be acknowledged by any person who has attentively considered what we have delivered above, in our history of this disease.

60. But tho' nothing considerable must be attempted in the fit, excepting only that those symptoms are to be relieved which an improper method of cure sometimes occasions; yet, as this disease is unanimously held to arise from a plenitude of humours, it may not perhaps be amiss for the patient to forbear flesh for a few days in the beginning of the fit, and instead of it to use water-gruel, or some similar aliment; for such a slender diet will greatly contribute towards lessening the quantity of the morbid matter, and give nature an opportunity of digesting it sooner. But as constitutions differ considerably, insomuch that some persons cannot bear to abstain from flesh without being immediately seized with a disturbance of the spirits, faintings, and other symptoms of the *hysteric* kind; such therefore will receive hurt by refraining from flesh any longer than the stomach is set against it, which for the most part is only the first or second day of those particular fits, all which joined together constitute the whole fit, as we have intimated above. But whether the patient eats flesh sooner, or later, he must be very cautious both of eating more during the fit than is requisite to support nature, and of the quality of the food. For great care should be had to guard against every error, either in the quantity or quality of the diet, both solids or liquids, even in the intervals of the fit, and especially in the fit itself. And further, no little regard is to be had in the intervals to the rest of the *non-naturals*, of which we have discoursed largely above; and tho' the pain and great inability to motion may seem to contra-indicate exercise, which I have chiefly extolled in this distemper, the labour must nevertheless be undertaken; for tho' the patient may think himself utterly unable to bear to be carried into a coach in the beginning of the fit, and much more so to endure the motion of it; yet, upon trial, he will soon find himself more easy from such a motion, than he is at home in his chair. Again, if this kind of exercise be used morning and afternoon for some hours, another advantage attends it, namely, it causes him to rest a

A slender diet to be used in the beginning of the fit.

great part of the night, which he could not do when he kept constantly within doors; for very moderate exercise fatigues a *gouty* person so much, that he falls asleep, besides, this kind of exercise is in some degree preventive of the *stone*, which an idle and sedentary life generally occasions. But the principal advantage resulting from the constant use of exercise, is the preventing the loss of motion in the limbs, which seizes several persons after the first or second long fit, occasioned by the contraction of the tendons of the hams and heels; for when the pain has been so violent that they have lain still a long time, not caring to stretch out their legs when it has attack'd the knees, they at length lose the use of their legs and feet for the remainder of life, both during the intervals, and in the fits, which nevertheless they do not escape. Again, in aged persons, whose concoctions are considerably vitiated, and who, by the long continuance of the disease, have the substance of their bodies in a manner changed into the *gout*, it is not to be expected that the disease can ever be brought to digestion without exercise; for when it exceeds the natural strength, they frequently perish by faintings and sickness, occasioned by the copious morbid indigestible matter, which cannot be assimilated, and destroys them like poison.

Exercise
not to be
used in the
beginning
of a very
severe fit.

61. But notwithstanding what has been said of the usefulness of exercise in the paroxysms of the *gout*, yet, if the fit be so violent as to sink the patient in the beginning of it (which happens chiefly in those subjects in whom the *gout* is at the height, and hath continued in that state for many years) and confine him to his room, it will likewise be proper for him to keep his bed a few days, till the pain abates, as the warmth thereof will in some measure supply the want of exercise; for lying constantly in bed digests the morbid matter more effectually in a few days, than sitting up does in many, especially in the infancy of the disease, provided that the patient can forbear flesh without faintings, and other bad symptoms, and be contented only with water-gruel small-beer, and the like. But it is well worth noting, that if the *gout* be inveterate and disposes the patient to faintings, gripings, a looseness, and the like symptoms, he is in great danger of
being

being destroyed by one of these fits, unless he use exercise in the open air: for abundance of *gouty* persons have been carried off by those symptoms, which they have been subject to, from being confined within doors, and especially in bed, who had lived longer if they would have bore the fatigue of riding in a coach most part of the day. For tho' a person, who is afflicted only with a pain of his limbs, may keep his room; yet another, who, instead of violent pain, is troubled with sickness, and the other symptoms above enumerated, cannot do the same without endangering his life. And, in effect, it is well for the patient, that there is no great need of motion, or exercise, as long as the pain continues so severe, that he cannot bear it; his life being secured by the pain, which is the sharpest remedy in nature.

62. But as to the symptoms of the *gout*; we are to relieve those which threaten life, the most frequent of which are the weakness and faintness of the stomach, with gripings, as if occasioned by wind; and these happen either to those who have had the *gout* many years; or to those, who, tho' they have not had it long have nevertheless brought it on too hastily by quitting spirituous liquors, of a sudden, for thin and very cooling liquors, or by applying repelling plaisters and other cooling topics to the parts affected, to ease the pain; whence the morbid matter, which should have been deposited in the joints, is translated to the *viscera*. I have tryed several remedies in my fits of late years to relieve those symptoms; but nothing did me so much service as a small draught of *canary*, taken occasionally, as the sickness and faintness required. Neither *French claret*, *Venice treacle*, or any other of the *cardiacs* I am hitherto acquainted with, is so efficacious. But we are not to imagine that *canary* or any other cordial, can wholly secure the patient without the use of exercise (b.)

The dangerous symptom to be relieved.

I i 4

63. But

(b) The *gout* in the stomach, accompanied with a high fever, and frequent violent reachings, requires bleeding and vomiting, gentle purging with *tincture of rhubarb*, *hierapicra*, the aromatic species, and spirit of lavender, warm stomachics, and perspiratives, as *camomile flowers*, *virginian snake root*, aromatic species, *camphire*, *contrayerva root*, *zedoary*, *ginger*, *galangal*, *flowers of sal-ammoniac*, *volatile salts of hartshorn and amber*, the cordial section,

The striking in of the *gout*, how remedied.

63. But if some violent symptoms come on suddenly, from the striking in of the *gouty* matter, and threatens death, we are not to trust to the wine, or exercise above commended; but here, provided only the natural, or vital parts, and not the head, be affected, we must have immediate recourse to *laudanum*, and give twenty drops of it in a small draught of *plague water*, and the patient must compose himself to rest in bed (c.)

A looseness in the *gout* best carried off by sweat.

64. But if the *gouty* matter occasions a *looseness* for want of being translated to the limbs, provided it be not the crisis of a particular fit, and yields not to *laudanum*

section, *mithridate*, and the like, spirituous cordials, and strong wines, blistering the arms and legs, the application of stimulating plaisters to the feet, an aromatic fomentation to the part, and the injection of oily glysters, along with a warm restorative diet.

A large glass of pure brandy has sometimes removed it, when other medicines had failed. See p. 536, Note (b)

(c) The case may be so circumstanced, as to render it dangerous to have recourse to *laudanum* immediately, so that this direction seems to be a little too loose and general. Neither is it easy to lay down such rules for the treatment of an internal *gout*, or any other disorder, as may not admit of variation; the indications therefore are best taken from the symptoms, which differ exceedingly, according as it attacks various parts, and persons of different constitutions, and therefore require very different management. In general, however, some sort of evacuations should be made before exhibiting opiates, which are rather to be the last refuge than the leading medicine.

It may be considered, says Dr Cheyne, whether *opiates* may be safely given in a fit of the *gout*, to procure rest, and ease pain. In the general, it is the safest side, not to give any kind of *opiates* in the fits; because they constantly pall the appetite, and leave a nauseating, and perhaps a reaching on the stomach, the readiest way to bring the *gout*. there. But, in extremities when the patient has been many days without rest, and the pain becomes intolerable, all other means failing, or equally dangerous, *opiates* may be so qualified, and their mischievous effects so bridled by joining spicy, nervous, and stomachic medicines to them, that they may become an excellent remedy. Thus, liquid *laudanum*, with tincture of *castor*, of *snake-weed*, of *diambra*, of *saffron*, *sal volatile*, compound spirit of lavender, hysteric water, and some agreeable simple water; some of these mixed in a due proportion, and proper dose, will not only procure rest, and ease pain, but answer all the other intentions in the cure of a fit of the *gout*. Thus also, *London laudanum*, with old *Venice treacle*, or *mithridate*, *serpentary root*, and unscented species of *diambra*, made into a *bolus* with any agreeable syrup, and cautioned as before, will produce the same effect. *Essay on the gout*, p. 28.

Janum and exercise of all kinds (for this is to be tried first in the cure of a *looseness*) but continues, attended with sickness, gripings, and the like symptoms the only remedy I know in this case, is to raise a sweat by a suitable method and medicines; and if this be done every morning and night for two or three days running keeping it up two or three hours at a time, it generally checks the *looseness*, and forces the morbid matter to the limbs. To this method I owe my recovery from this disease some years since (which I had imprudently occasioned by drinking cold water for my common drink) after having used cardiacs and astringents of various kinds to no purpose. (*d.*)

65. There is another symptom, which I have often seen, tho' it is not so common, namely a translation of the peccant matter to the lungs, by a cough in the winter season, occasioned by taking cold in the fit, which by degrees invites the matter to those parts, the joints the mean while being in great part, or totally freed from the pain and swelling, from the translation of the morbid matter to another part. In this single case, the curative indication is not to be levelled at the *gout*, but this symptom is to be treated like a true *peripneumony*; namely, by repeated bleeding, and cooling and incompressing medicines and diet, as the blood that is taken away, especially in this symptom, exactly resembles that of pleuritic persons. The patient likewise should be gently purged in the intervals of bleeding, to carry off the matter that is lodged in the lungs. But sweating, how effectual soever it may be in forcing the morbid matter upon the limbs, proves detrimental in this case, by hardening the matter that is driven upon the lungs; whence proceed small abscesses, and in the end certain death. (*e.*)

66. It is further to be noted, that most *gouty* persons after the disease has been of long standing, become subject to the *stone in the kidneys*, and are generally seized with

A translation of the *gouty* matter to the lungs how to be taken off.

Nephritic pains during the *gout* how mitigated.

(*d.*) The *gout* in the bowels is to be treated nearly in the same manner, as when it attacks the stomach, only having a particular regard to the *looseness*, which requires a free use of *rhubarb*, joined with moderate *astringents*, and a smaller quantity of *opium* or *laudanum*, than in the former case,

(*e.*) In this case bleeding, gentle vomitives, blisters and the medicines ordinarily prescribed in the *asthma*, are highly proper, and often effectual.

with *nephritic pains*, either at the height, or more frequently at the declension of the cardinal fit, which are very severe, and weaken the patient considerably, who was but too much debilitated and exhausted by the preceding distemper. In this case, omitting all other remedies, let him immediately drink a gallon of posset drink, in which two ounces of marsh mallow roots have been boiled, and inject the following glyster.

An emollient glyster.

Take of the roots of marshmallows and white lillies, of each an ounce; the leaves of mallows, pellitory of the wall, bears-breech, and camomile flowers, of each one handful; linseed and fenugreek seed, of each half an ounce; boil them together in a sufficient quantity of water to a pint and half; dissolve in the strained liquor brown sugar, and syrup of marshmallows, of each two ounces: mix the whole for a glyster.

As soon as the posset drink is vomited up, and the glyster come away, exhibit twenty-five drops of *liquid laudanum*, or fifteen grains of *Matthew's pill*. (f.)

Topics unsafe in the gout.

67. If outward applications be enquired after to ease the pain in the *gout* I know of none (tho' I have tried abundance both in myself and others) besides *coolers* and *repellents*, which I have already shewn to be unsafe. And I scruple not to affirm, from a long course of experience, that most of those who are supposed to perish by the *gout* are rather destroyed by wrong management, than by the disease itself. But if a person be desirous of trying the efficacy of such external medicines as are esteemed certain anodynes, to prevent being mistaken, instead of applying them at the declension of a particular fit, when the pain is just going off spontaneously, let them be used in the beginning, and he will soon be convinced of their insignificancy, and the groundlessness of his expectations; as they sometimes do mischief, but can never do service. For this reason I have laid aside the use of topics for several years; but I found most benefit formerly from a cataplasm, made of *white bread and saffron boiled in milk*, with the addition

(f) *Turpentine* glysters given every twelve hours, and *opiates* administered occasionally in small quantities, will do service here: but aromatics, which are otherwise proper in an internal *gout*, must be exhibited very sparingly, for fear of inflaming the parts, and exasperating the symptoms.

dition afterwards of a small quantity of *oil of roses*; which, however, did not at all relieve me in the beginning of the fit. (g.) If, therefore the pain be extremely severe, the patient had better keep in bed till it abates a little, than to have recourse to anodynes; but notwithstanding it will be proper, if the pain be violent, to take a dose of *laudanum* in the evening, otherwise it were better omitted.

68. But now I am treating of outward applications, I must say something of a certain *Indian moss*, entitled *The burning of the part with moxa*, which is highly esteemed of late in the cure of the *gout*, the manner of using it being to burn slightly the part affected with it. Now, tho' this remedy is said to come from the *East Indies*, and to have been unknown to the *Europeans* till of late years, it will nevertheless appear to be of more antient date with us by consulting the writings of *Hippocrates*, compiled above two thousand years since. For treating of the *Sciatica*, he advises, "If the pain be fixt in any one part, and does not yield to medicines, in whatever part it be, to burn it with raw flax:" and a little farther, speaking of the *gout* in the feet, he says; "The same things are proper here, that do service in the *gout* of the joints; and indeed this is a long and painful, but not a mortal disease: if the pain, however, continue in the fingers, burn the veins above the joints with raw flax (g.)" Now I imagine that nobody can think there is such a specific difference between the flame of burning *flax*, and that of *Indian moss*, as to render the latter more effectual in the cure of the *gout* than

(g) Much mischief has been done in this disease by improper outward applications: so that it is adviseable not to have recourse to any without great necessity, and in this case to be particularly careful to make a proper choice. In general they are to be stimulating in the beginning of a fit, and till after the height, and perspirative and strengthening towards the declension. Warm flannel is perhaps the best universal topic.

The application of outward remedies to the pained parts, says *Hoffman*, is seldom very safe, yet they are much more dangerous in such habits as abound with a foul blood, or lymph, or in the hypochondrical and hysterical, the system of whose nerves and fibres is subject to spasms; for from several observations it appears, that fatal disorders have succeeded their application, amongst which it suffices to name an apoplexy, a palsy of one side, a loss of memory, a convulsive asthma, a convulsive colic, and an inflammation of the stomach and bowels.

Spirituos

than the former; any more than he can suppose that a fire made with oak billets can do more than another made of ash. This burning of the part affected bids fair to ease the pain, and may sometimes effect it; the most subtle and spirituous part of the morbid matter deposited in the part being by this means expelled. But the relief hereby obtained must needs be short, because it does not reach the indigestion, which is the antecedent cause of the *gout*; and it may seem needless to observe, that it is to be used only in the beginning of this disease. For when the *gout*, either by reason of its long continuance, or from wrong management, retreats to the internal parts, which sometimes happens, and, instead of pain, causes sickness, gripings, and abundance of the like symptoms, no judicious person will be for using fire.

The author unacquainted with any specifics for the *gout*.

69. And now I have communicated all that I have hitherto discovered concerning the cure of this disease; but

Spirituous and camphorated applications are not so prejudicial in phlegmatic habits, but in the reverse, if they do not repel the gouty matter, yet they dispose to the stone, or help to breed chalk-stones, or occasion very troublesome contractions of the parts affected.

Dr *Cheyne* likewise observes, that *topics*, or outward applications to relieve the part affected in a fit of the *gout*, are dangerous, unless discreetly managed. And adds, in the *cardinal* fits of *spring* and *autumn*, when thro' ignorance or neglect of proper methods, they shall happen *irregular*, I would by no means encourage any such outward application of what kind soever hitherto discovered, except in the very last extremities of pain.—For let pretenders brag what they will, I know of no outward application hitherto discovered, but what by its sluggishness stops the natural perspiration; or by its activity counteracts the direction of the circulation; and, consequently, repels the humour in some degree or other.—But in the fits falling out of these seasons; in the tedious and lingering fits of those broken with age, and habitual *gouts*; a well-chosen outward application may be safely and successfully used—especially, if at the same time gentle stomachic purges be administer'd; or a blister on [the ankles or wrists be opened, to let out what may be repell'd by the *topic*, and thereby to secure the noble organs.—For this purpose I would recommend a decoction of *butter-burr*, *ground-pine*, or *camomile* flowers, or any *aromatic* bitter plant in milk, for a *sotus*; or a *pultic* of the head of a sack-whey posset, or any such soft and active application, to moisten, loosen, relax, and open at first; and towards the decline of the fit, a *mithridate*, or *Venice treacle* plaister; the *emplastrum stomachicum magistrale*, or the like, to strengthen, warm, and comfort; especially, if with these last, a stomachic warm purge be join'd. *Essay on the gout*, p. 121.

but if it be objected, that there are many specific remedies for the *gout*, I freely own I know none, and fear that those who boast of such medicines are no wiser than I am. And, in effect, it is to be regretted, that the excellent art of medicine should be so much disgraced by such trifles, with which the credulous are deceived, either thro' the ignorance or knavery of authors; remedies of this kind being extravagantly extolled in most diseases by such as make a trade of these trifles. But what is more surprising this ridiculous fondness does not only obtain in such diseases as are regularly formed, but in those likewise which are not formed, and proceed from some injury of the organs, or from an external cause, and it imposes upon persons that in all other respects are men of judgment. We have sufficient proof of this in such medicines as are commonly deemed specifics in contusions; such as *sperma ceti*, *Irish slate*, &c. which only mislead us from the method required in these cases, as will appear by trying how much more safely and expeditiously these accidents may be cured by bleeding and purging alternately, without having recourse to these insignificant remedies, which are generally given after the first bleeding, and likewise to the raising of a sweat, which ordinarily continues during the use of them and heats the parts already disposed to an inflammation, so as to endanger the life of the patient without necessity.

70. To conclude; the method I have here laid down is founded upon a search into the above mentioned signs and symptoms of the distemper, and by pursuing it I have relieved myself and others: but the radical cure of the *gout* is yet a secret, nor do I know when, or by whom it will be discovered. I hope, nevertheless, that I have contributed in some degree to the good of mankind by this treatise, by faithfully pointing out those rocks whereon myself and many others have split, subjoining likewise the best method of cure which I have hitherto discovered. which is all I promise, tho' after long consideration I cannot help thinking that such a remedy will be found out hereafter; and if ever this should happen it will betray the ignorance of the theorists, and clearly shew how notoriously they are mistaken in the knowledge of the causes of diseases, and in the

The foundation of the author's method.

medicines

medicines they give to cure them. We have a plain proof of this in the *Peruvian* bark, the best specific in intermittents; for, how many ages had the most acute physicians spent in searching into the causes of intermittents; and adapted such methods of cure as were best suited to their several theories! But how little honour those methods did to the theories whereon they were founded, appears from a late instance in the practice of those, who, ascribing the various kinds of intermittents to the redundancy of different humours in the body, ordinarily attempted the cure by altering and evacuating those humours; which succeeded ill with them, as is manifest from their failure, but especially from the more successful use of the bark, by the help of which, if given in a proper manner, we commonly answer the end effectually, without regarding those humours, diet, or regimen; unless the patient be unnecessarily kept in bed whilst he is taking it; in which case, however, so efficacious is this medicine, that it seldom fails curing the patient, notwithstanding this inconvenience of encreasing the disease by the warmth of the bed: In the mean time, till the radical cure of the *gout* be found out, which all physicians, and myself in particular, ought to wish for, I intreat the reader to receive this little treatise in a favourable manner; but if he should not, I am so well acquainted with the tempers of mankind, that it will be no great disappointment to me; and I know my duty so well, that I shall not be discouraged thereat. And, if the racking pains, unfitness for motion, and other disorders which I have been afflicted with during the greatest part of my life, together with the loss I have sustained in my business by sickness, may be a means of relieving others, I shall have some reward for the miseries of this kind, which I have suffered in this life, now I am leaving it for another.

A TREATISE of the DROPSY.

I. **T**HE *dropsy* attacks persons of all ages, and of both sexes; but women are more subject to it than men. It chiefly happens to men when they are advanced in years, and to women when they are past bearing children; though sometimes young women also, whilst they continue childless, are seized with it. One of the first signs of the *dropsy* is the *pitting of the ancle*, discovered by pressing the finger against it, especially towards night, for in the morning the swelling is down, which, however, is not so certain a sign of a beginning *dropsy* in women as it is in men, as being frequently found in pregnancy, and a suppression of the *menses*, from whatever cause the suppression proceeds. Nor is the swelling of the legs a certain sign of the *dropsy* in men; for when an antient person of a gross habit has had an *asthma* several years, and is suddenly freed from it in the winter, a considerable swelling soon arises in the legs, resembling a *dropscical* swelling, and, like that, is larger in winter than in summer, and in moist than in clear weather, and yet without causing any remarkable inconvenience lasts the remainder of life. Nevertheless the swelling of the legs in men is generally speaking, to be accounted a sign of an approaching *dropsy*, especially if it be attended with a difficulty of breathing; and it encreases every day in quantity and size, till the feet will receive no more water, and then the thighs swell, and afterwards the belly fills with the *serum*, which is continually separated from the blood, and by degrees stretches it as much as it will bear; so that it frequently contains several gallons of water, which falling upon the navel, sometimes occasions a *navel* or *umbilical rupture*.

Whom the *dropsy* chiefly seizes, and at what time of life.

2. This distemper is accompanied with three symptoms; (1.) a *difficulty of breathing*, proceeding from the compression of the *diaphragm*, by the water which obstructs its natural motion; (2.) a *voiding of little urine*, occasioned by the serous parts of the blood being emptied into the belly, and other parts fitted to receive it, which should naturally have been evacuated by the urinary

Attended with three capital symptoms.

urinary passages; (3.) *great thirst*, caused by the putrefaction of the lymph, which, by its long continuance in the body, grows hot and acrimonious, and occasions a kind of continual fever and thirst.

As the swelling increases, the other parts waste.

3. In proportion as the swelling of the parts affected increases, the other parts become more emaciated, and waste away, and at length, the quantity of the extravasated water growing too large to be contained in the belly, it is translated to the vital and noble parts, and the patient perishes by a kind of deluge.

This disease caused by the weakness of the blood.

4. This disease in general proceeds originally from the weakness of the blood, which being unable, in this state, to change the element into its own substance, necessarily throws it off upon the extremities, and depending parts of the body, and soon after also into the belly, where, so long as the quantity is not considerable, nature forms some small vessels to contain it, till it increases to that degree at length, as to be included only by the *peritonæum*.

Whence that proceeds.

5. Now the blood is most commonly debilitated by (1.) an immoderate evacuation of it by bleeding, or (2.) any other way, (3.) a disease of long standing, or (4.) the destructive custom of drinking spirituous liquors to excess, which destroys the natural ferments of the body, and wastes the spirits (*i.*) Hence great drinkers are most subject to the *dropsy*, notwithstanding its being a cold disease: and, on the contrary, water-drinking, in such as have been long accustomed to generous liquors, is equally prejudicial to the blood.

Is sometimes produced by a different cause in women.

6. It must be noted, however that in women this disease does sometimes proceed from a very different cause, namely, from an obstruction of one of the *ovaries*, which by degrees destroys its tone, whence its coat being stretched to such a degree, by the lymph first deposited there, as to be ready to burst, nature forms some small

(*i.*) The immoderate use of spirituous liquors is attended with several ill consequences; for being drunk in this manner, they render the fibres over rigid and tense, communicate an acrimony to the animal fluids, and not mixing readily therewith, are apt to thicken and coagulate them, whence they obstruct their circulation, especially in the small vessels, and cause the liver and glands of the mesentery to grow, scirrhus, and by this means contribute greatly to the generation of *humoral dropsies*, and other chronic diseases.

Strong

small vessels to receive it, and at length one or more of them breaks, empties its contents into the cavity of the belly, and occasions the same symptoms; as in the *dropsy*, which we have specified above. But I have already treated of this sort of *dropsy*. (k)

7. There are likewise two other kinds of swellings of the belly, resembling a *dropsy*, both which often affect women. The first is a preternatural fleshy excrescence generated in the inner parts of the belly, which swells

K k

Two other kinds of swellings of the belly, resembling it a *dropsy* in women.

Strong fermented liquors says the last mentioned author, contract and bind together the *blood globules*. and stuff them with their *oils* and *spirits*, so that they become lighter, and swim on the top of the separating mass, fill the *serum* with their salts, and weaken and break the cohesion and *elasticity* of the *solids*, by their too strong *stimulus* so that they are non sufficient to circulate and mix in due proportion the several principals, and continue the mass of blood, so as it ought to be, in a sound state of health, and hence obstructions, distempers, and death.

The custom of drinking spirituous liquors by drams, says Dr Lobb, the having recourse to them daily to keep up the spirits, the taking a glass of them after meals to promote digestion, and such like practices, are *immoral* and *destructive*; for if continued, they will disable the secreting organs from performing their respective offices, and totally destroy the appetite: they will hinder the excretion of urine, make it in time to become little in quantity, and high-colour'd; and will produce the *jaundice*, or *dropsy*, or some other disease, that will hasten an untimely death: and what is worse, they will bring on such persons the horrid guilt of destroying themselves. A miserable preparation this! for the appearance of their souls before the holy God, who gave them their lives, and will demand of them an account of what care they took of them, as well as how they employ'd, and improv'd them. *Treatise on dissolvents of the stone, &c.* p. 204.

No more powerful and striking arguments can, I think, be brought to combat this hateful epidemical vice, and to dissuade and deter men from a practice which is so highly and notoriously criminal, than such as certainly evince that it is destructive of the health of their bodies, and imminently endangers the salvation of their souls; which, what have been just alleg'd, puts beyond all doubt, and leaves those that are guilty of it without excuse. 'Tis to be hoped, therefore, that these weighty and affecting considerations may awaken some from their stupid insensibility, to a sense of their crime and danger, and prevail with them speedily to quit a habit, which has manifestly so fatal a tendency, and which, like all other vicious habits, the longer it is indulged, the deeper root it takes, and the greater will be the difficulty of subduing it:—but the victory, which by calling in the aids of reason and religion may unquestionably be attained, will abundantly recompense all the pains that can be taken in the attempt.

it as much as water included therein does (l.) The other kind proceeds from *flatus*, and, besides a swelling, causes the signs of pregnancy; and happens chiefly to widows, or women that did not marry till they were advanced in years. And such, in their own and midwife's opinion, feel the child move from the customary time, to the usual time of delivery, and withal are sick between times, as pregnant women commonly are, and their breasts swell and have milk in them, insomuch that they frequently provide child-bed-linnen: but at length the swelling of the belly diminishes in the same proportion it encreased, and frustrates their hopes (m.)

Neither

(l) The author here should seem to mean what the writers in medicine term a *mole*, or *false conception*, which is apt to impose upon women for a time, so as to make them believe they are pregnant. For a further account of this disorder we refer the reader to Dr *Shaw's* practice of physick, and *Heister's* surgery, where he will find a satisfactory account of it.

(m) This is that kind of *dropsy*, which authors distinguish by the name of a *Tympany*, or *flatulent dropsy*, in which the belly frequently contains only a small quantity of water.

This is a distemper which rarely happens, and *Hoffman* is of opinion that it should rather be pronounc'd a symptom of the *anasarca* and *ascites*; then denominated a certain species of the dropsy. To cure it he strongly recommends the use of glysters made of carminative ingredients, and affirms that purging pills, join'd with an opiate, have done great service in this case; and further advises to anoint the whole abdomen with oil of camphire prepared with oil of almonds, for some days running, which gives some relief.

Powerful evacuations, *Juncker* observes, are not so useful in this disorder as in the *ascites*; but gentle evacuations by stool, urine, and sweat, are beneficial.

In a *tympany* says *Heister*: which is owing to watery humours, the relax'd tone of the *viscera*, and wind, which greatly distend the flaccid bowels and *abdomen*, strengthening and carminative medicines should be mixed with resolvents, bitters, and saline medicines, or both given alternately. *Filings of steel* made into pills, of an electuary along with *bitter extracts*, according to *Sydenham's* method are very useful for strengthening the tone of the parts.—Every third or fourth day for a fortnight or three weeks, or longer, if there is occasion, let a gentle purgative be given, *viz.* either *laxative purging pills*, joined with *balsamics*, or *jalap* with a small proportion of *sweet mercury sublimed* or *Glauber's purging salt*; and afterwards administer strengthening medicines, and let the diet and regimen be the same as in a *cachexy* and dropsy. The *abdomen* should be frequently anointed with distilled oils, and carminative balsams, warm'd; or a plaister made of the *cumin* or the *soap* plaister spread on leather may be applied to it. Whenever the belly is obstinately costive, give one of the above-mentioned purgatives, or a carminative glyster to open it.

Neither of these disorders is to be referr'd to the distemper under consideration.

8. The genuine curative indications, in a manner naturally arising from the symptoms above enumerated, are either (1.) to carry off the water contained in the belly, and other parts, or (2.) to strengthen the blood, so as to prevent a fresh drain of water into the parts affected (k.)

9. (1.) With respect to the evacuation of the water it is well worth observing, that weak purgatives do more mischief than good in *dropsical* cases; for as all cathartics are prejudicial to nature, whence it is that they purge, they in some measure impoverish the blood; for which reason, unless they operate, and run off expeditiously, they increase the swelling, by moving those humours which they cannot carry away with them, and raising a tumult in the blood, as appears manifestly in the legs of those who are thus gently purged. To make purging therefore beneficial to the patient, it should be known whether he is easy or hard to purge, insomuch as the cure depends entirely on this particular, and will accordingly be very easy or difficult to effect. Hence, if *hydragogues* are necessary, great regard must be had to the patient's being easy or hard to purge, which can only be learnt with certainty by enquiring carefully in what manner other purgatives have operated with him formerly. For as some persons are endued with a prevailing *idiosyncrasy*, or peculiarity of constitution, which renders them easier or harder to be operated on by cathartics, whoever makes the sensible temperament of the body the standard in this case, will often endanger the patient's life; as it frequently happens that some persons of a strong constitution are easy to purge, whilst others of a weak one

Gentle purgatives more pernicious than serviceable.

K k 2

find

(k) The genuine method of cure consists first in evacuating the stagnating water, either by vomits, purgatives, or diuretics, or by the operation, as shall be judged most proper, and secondly in strengthening the whole habit, so as to prevent a fresh collection of water in the parts affected.—Both these indications must be attended to in their order, otherwise no cure can be made; for 'tis not enough to accomplish either, as our author seems to think, as only half the work would thus be done; besides the hazard also of beginning at the wrong end, by which means the cure would be so far from being advanced, that the distemper would, on the contrary, be rendered more obstinate thereby.

find the strongest purgatives of little effect. And in reality this caution respecting the unfitness of the habit to bear purging is to be attended to in prescribing *hydragogues*, and all other purgatives; for I have frequently found a super-purgation occasioned by lenient draughts, for want of enquiring beforehand into the disposition of the patient, with respect to purging. But because of all diseases, the *dropsy*, as I have already remarked, requires the roughest and quickest purgatives, and gentle purging, which does service in some other distempers, ought by no means to be admitted here, inasmuch as mild purgatives rather increase than lessen the swelling, it follows that rough and plentiful purgation is to be preferr'd, especially as we have *laudanum* to check the operation of the medicine, in case it proves too violent [o].

The water to be carried off, as fast as the strength will bear.

10. Again, with respect to purging for the cure of the *dropsy*, great care must be had to carry off the water as speedily as the strength will permit: it being proper to purge every day, unless great weakness, or the

too

(o) *Hoffman* observes that tho' it be sometimes necessary in a *leucophlegmacy* and an *anasarca* to give a strong purgative, in a larger dose than ordinary, to discharge the copious serum; yet there is nothing more dangerous in an *ascites*, than violent purgatives, as he found by frequent experience, and it appeared by opening the bodies of such as have been thus treated, that a sphacelous inflammation of the bowels is suddenly occasioned hereby. Therefore, he adds, with respect to the use of strong purgatives, which may indeed be administered in the beginning, whilst the strength of the patient is no ways impaired 'tis my serious advice that they be not frequently repeated, for instance, not above once in six or seven days time, and that the strength mean while be supported by such medicines and aliments as afford good nourishment. 'Tis best to refrain entirely from the very violent ones, such as *gamboge*, the *fæcula of wild cucumber*, *colocynthida*, *helebore*, &c. which are possessed of a certain colliquative virtue, prejudicial to the strength, which a weak constitution, and an easy irritable stomach cannot well bear, and to give purgatives mix'd with gentle emetics in the room of them, in the form of pills or an infusion, which have as good an effect, and are much safer.

Arbuthnot is of opinion that violent purgers, by dissolving the blood, have often proved pernicious.

And *Juncker* tells us, that tho' a considerable quantity of water is frequently carried off by strong purges, yet instances often occur where they do no service, tho' repeatedly administer'd, but rather mischief; for they greatly irritate the bowels, weaken their tone, and promote the bursting of the lymphatics.

too violent operation of the preceding purgative should require a day or too to be interposed. For if purging be used only at distant intervals (tho' the last purge brought away plenty of water) we shall allow time for a fresh collection of water and by such a delay (as if we knew not how to improve the advantage obtained) instead of accomplishing the cure, leave it unfinished. Moreover, the bowels are in danger of putrifying from the long continuance of the water in the belly; to which may be subjoined an observation of great importance, namely, that the waters being thus put into motion by the former purgatives, are more apt to injure the body, than whilst they remain at rest. So that for this reason, as well as the foregoing, this intention respecting the evacuation of the waters contained in the belly, must be answered with the utmost expedition; nor is purging to be left off, without an absolute necessity, till the whole quantity is discharged.

11. It is further to be noted, and is verified by practice, that most *hydragogues*, by their peculiar nature, if given alone to such as are hard to purge, seldom answer our expectations; and being taken in a large dose, instead of purging, raise a disturbance in the blood; whence the swelling, which should be lessened thereby, is found to increase. They are of no other use, therefore, in such constitutions, than to quicken the operation of lenient cathartics; but, nevertheless, they operate speedily and effectually in such as are easy to purge.

Hydragogues,
their use,
and how to
be given.

12. For this reason, in such habits, *syrup of buckthorn* alone evacuates water plentifully, and little else, without disturbing the blood, or rendering the urine high-coloured, as other purgatives generally do, and has only the single bad quality of occasioning great thirst during the operation. But if it be given in the largest dose to such as are hard to purge, it will never give many motions, nor carry off enough water.

*Syrup of
buckthorn*
a safe and
effectual
one.

13. I remember well, for it was my first *dropical* patient, that I was called about twenty seven years ago to Mrs *Saltmarsh* in *Westminster*, who had the *dropsy* in the greatest degree I have yet seen, her belly being swell'd to an incredible size. I gave her an ounce of *syrup of buckthorn* before dinner, according to the custom of that time, and it brought away an almost inconceivable quantity of water, without causing any disturbance,

Verified in
a case.

bance, or faintness. Encouraged by this success I gave it every day, only interposing a day or two occasionally, when she seemed weaker than ordinary. And the water being by these means carried off by degrees, the swelling of the belly diminished daily, and she recovered.

The author conceives too highly of it

14. And now, being young and unexperienced, I could not help thinking that I was possess'd of an infallible medicine for the cure of any kind of *dropsy*: but in a few weeks I discovered my error. For being called soon after to another woman afflicted with the *dropsy*, which succeeded an inveterate quartan, I gave this syrup, and repeated it frequently, increasing the dose by degrees; but having ineffectually attempted to evacuate the waters, inasmuch as the medicine did not operate, the swelling of the belly increased, and she dismissed me; and, if my memory does not fail me, recovered by the assistance of another physician, who administer'd more powerful remedies.

Lenient cathartics failing, stronger must be us'd.

15. When the constitution of the patient appears to be such, that lenient cathartics will not cure with ease and expedition, recourse must be had to stronger: in which case, as I have just hinted, it should be remarked, that tho' few *hydragogues* administer'd alone will answer the end, yet by mixing them with lenients to quicken the operation of these, they prove sufficiently effectual. In such habits, for instance, I have frequently ordered the following potion with success: it must be given, however, to none but strong persons, whom it purges when nothing else will, as I have learnt from a long course of experience.

A purging potion.

Take of tamarinds, half an ounce; the leaves of senna, two drams; rhubarb, a dram and half; boil them together in enough water, so as to leave three ounces when strain'd off, in which dissolve manna and solutive syrup of roses, of each an ounce; syrup of buckthorn, half an ounce; and electuary of the juice of roses, two drams: mix them together for a potion.

Or,

Another. Take of white wine, four ounces; jalap finely powder'd, a dram; ginger, in powder, half a scruple; syrup of

of buckthorn, an ounce: mix the whole together for a potion, to be taken betimes in the morning, and repeated every day, or every other day, as the strength will bear (p.)

16. The following is another form of medicine which I frequently use, and may be commodiously given to such as cannot bear the repetition of other purges, inasmuch as it both warms and strengthens the patient during the operation.

Take of the roots of jalap and harmodactyls, bruised, each half an ounce; scammony, three drams; the leaves of senna, two ounces; liquorice root, and the seeds of anise and caraway, each half an ounce; the tops of wormwood, and the leaves of sage, each one handful; infuse them together without heat, in three pints of common aqua vitæ, and strain off the tincture only when wanted. Let a spoonful of it be taken at bedtime, and two the next morning, increasing or diminishing the dose, in proportion to its operation.

17. But the two best medicines, in my opinion, for such as are hard to purge, both which are stronger than any of those above specified, are *elaterium*, and the infusion to purge.

K k 4

Elaterium commended for such as are hard to purge.

(p) There is not a better and more agreeable general purgative in all the *materia medica* than *jalap*: it is scentless, not ill-tasted, nor bulky, works pleasantly and expeditiously, and particularly carries off watery humours. It is indeed improper in acute fevers, and in rigid, warm, dry, and bilious habits, but may be safely and advantageously given in lax, moist, and leucophlegmatic constitutions, and in children. It is best in substance, and requires no corrective, provided it be given in such a dose, as is skilfully adapted to the disease, habit, and age of the patient. Aromatic oils, which are ordinarily mixed with it by way of correctives, should seem to occasion a greater irritation than the purgative itself, by the heat and pungency of their parts, so as sometimes to cause an inflammation, and by drawing the bowels into spasmodic contractions, rather obstruct than promote the operation of the medicine. As to alkaline salts, as the salt of wormwood, tartar, and the like, which are used for the same purpose, they dissolve and increase the surfaces of the resinous parts of the root, whence it touches in abundance less points, and of course operates more gently, or in other words less effectually, which end might be answered as well perhaps by diminishing the dose. May not the custom of prescribing it always with correctives proceed from prejudice and want of consideration, rather than an absolute certainty of their usefulness, founded on a competent number of trials, duly verified?

fusion of *crocus metallorum*. *Elaterium*, or the *fæces of the wild cucumber-juice*, operates powerfully in a small quantity, and carries off abundance of foul and watery humours. Two grains of it is, generally speaking, a sufficient dose for most persons. I usually order this quantity to be mixed with a scruple of *pil. ex duobus*, and made into three pills, to be taken in the morning (9).

And the
infusion of
*crocus me-
tallorum*.

18. As to the infusion of *crocus metallorum*, if an ounce and half, or, to such as are hard to purge, two ounces of it be given in the morning, and repeated every day, as the strength will bear, tho' at first it should only seem to evacuate the water contained in the stomach, it will, nevertheless, at length empty the belly. For besides its usually going downwards, after the vomiting stops, the considerable agitation and the shaking of the stomach and bowels, in a manner surrounded by a current of water, occasioned by so violent an effort, must needs be followed with an evacuation of the water, thro' such passages as naturally are not sufficiently open to suffer it to run off that way. But if this emetic does not work enough downwards, I sometimes, but not often, add to it, after the third or fourth dose, a quantity of the *electuary of the juice of roses*, and *syrup of buckthorn*, after the following manner:

A strong
purgings
poison.

Take of the distill'd water of *carduus benedictus*, three ounces; the infusion of *crocus metallorum*, an ounce and half; *syrup of buckthorn*, half an ounce; the

(9) The antients are said to have given this from six to thirty grains, but the moderns seldom exceed four or five. Dr *Lister* indeed, in a dissertation on the *dropsy*, tells us, that he has given it successfully in the quantity of ten grains, once a week, for three months running; and has many curious particulars concerning it. However as it is universally esteem'd a very acrimonious, inflammatory and rough purgative, it should rather be given in a small dose at first, increasing it by degrees as the patient can bear it, and the state of the disease may require; for fatal consequences often result from purging too violently both in this and other diseases, where the tone of the vessels is so much injured, and the fluids so poor and spiritless.

I have known five grains of *elaterium* frequently given with a scruple of the *simple pills of colocintida*. *Boerhaave* esteems it a very violent purgative, but says it may be given from a grain and half to twelve grains. The *mercurial pills* in the late college dispensatory are an admirable hydragogue.

the electuary of the juice of roses, two drams: mix them together for a potion (r).

19. Now, that there are secret passages, thro' which the waters are convey'd from the cavity of the belly to the intestines is manifest; for daily experience shews that *hydragogues* carry off as much water downwards, as if it were originally contained in the intestines themselves. But as it is not easy to account for this fact, it brings into my mind an excellent passage of *Hippocrates*, who is universally esteemed the most knowing physician the world ever had. His words are these: "Some physicians and pretenders to learning, hold it impossible to understand physic, without being acquainted with the nature of the human body, and the manner of its formation; but, I am of opinion, that what philosophers and physicians have either said or wrote concerning nature, relates more to painting, than to the art of medicine (s).

Secret passages for the waters to pass from the belly to the intestines, prov'd from fact.

20. But lest this admirable author should be accus'd of error, or empirics endeavour to patronize their ignorance from this passage, I freely own, that as far as I am able to judge of practice, which ought to be reckon'd the test of physicians, it is absolutely necessary a physician should be well acquainted with the structure of the human body, to enable him the better to form right conceptions of the nature and causes of some diseases. For without a knowledge of the structure of the kidneys and urinary passages, one cannot conjecture whence those symptoms arise, which proceed from a stone's being lodged in the *pelvis*, or sticking fast in the ureters. Surgeons likewise ought to understand anatomy, that they may more surely avoid those vessels, or

Hippocrates defended, and the use and necessity of anatomy shewn

(r) Dr *Lister*, in the dissertation before quoted, speaking of this remedy, seems to apprehend it will occasion a great thirst, as being of a very drying nature, and attributes its working downwards, after it has done operating upwards, to the vast quantity of liquor, which must necessarily be drank during its operation, rather than to its being possessed of any purgative quality. And as persons in an *ascites* have generally a very difficult respiration, he thinks they cannot bear the operation of an emetic, which takes up two hours, without falling into swoonings.—

The virtue of this medicine therefore seems to stand upon a very precarious foundation, and, like many others, wants to be settled by well-conducted and competent experience.

(s) See lib. de *prisc. med.*

or parts in their operations, which cannot be hurt without destroying the patient. Neither can they reduce dislocated bones to their natural situation, without a careful examination, and thorough knowledge of the position of the bones in a human skeleton.

Easily acquired.

21. Such a knowledge of the human body, therefore, is so absolutely necessary, that whoever wants it will treat diseases hoodwinked. Besides, this science may be acquir'd without much trouble, and in a short time; for it may be sooner learnt than other more difficult matters by persons of no great acuteness, by inspecting the human body, or the bodies of some animals. But in all acute diseases (which comprehend more than two thirds of distempers) and most chronic ones, it must be owned, that there is something *divine*, or some specific property, which is not discoverable by a search into the structure of the human body. Accordingly, it is my opinion, that *Hippocrates*, in the passage above quoted, means no more than to caution against depending so entirely on the dissection of dead bodies, as if the art of medicine might receive greater improvement from thence, than from an accurate observation of the natural symptoms of distempers, and those things which do service or mischief, and that he did not intend to explode or depreciate a general knowledge of *anatomy*.

But only a general knowledge of it to be obtained.

22. And, in effect, it may be presum'd, that so wise a man could not but know that all the discoveries that can be made by mankind, cannot reach beyond such a general knowledge. For tho' a careful dissection of dead bodies exhibits the greater organs, employed by nature in her operations, and certain vessels, likewise, thro' which the fluids are convey'd from these to other parts, yet the original and primary cause of this motion remains invisible; nor can the eye, assisted by the best microscope, discover those vessels, for instance, thro' which the chyle is strained through the intestines into the chyliiferous vessels, or the ducts thro' which the blood passes from the arteries into the mouths of the veins. Again, there are numberless vessels and pores in the human body, the structure whereof is still more delicate, which no one yet has so much as conceived: so deficient and gross is our knowledge, which is in a manner limited to the surface of things, but can by no means

means attain to discover their causes. However, notwithstanding this, there needs no very difficult enquiry to come at the knowledge of what is sufficient (as far as the nature of things will allow) to direct us in the cure of those diseases, which require this kind of skilfulness, as we have intimated above, and especially such a share of it as may induce us to revere the creator with the greatest humility, whilst we contemplate his wonderful workmanship in those things we are able to account for, and that excellent contrivance in others, which we do not in the least comprehend.

23. And as *Hippocrates* censures such as spend more time in studying the more curious and less useful parts of anatomy, than in practical observations, and consequently in studying nature; so there is the same reason in this age to censure those, who maintain that the art of medicine cannot be better improved, than by new discoveries in *chemistry*. For tho' gratitude requires us to own the helps we have received from chemistry, whence we have been supplied with some good and well-adapted medicines to answer indications, amongst which the infusion of *crocus metallorum*, the vomitive under consideration, is no contemptible one; so that for this reason chemistry is to be held a very useful art, provided it be restrained within the bounds of pharmacy: yet they are guilty of a fault, or at least a mistake, who work their imagination up to such a pitch, as at length to suppose the chief deficiency of medicine to be a want of efficacious remedies, only procurable from chemistry. Whereas, whoever considers the matter thoroughly will find, that the principal defect in the practical part of physick proceeds, not from a scarcity of medicines to answer particular intentions, but from the want of knowing the intentions to be answer'd. For an apothecary's prentice can tell me, in a very short time, what medicines will purge, vomit, sweat or cool: but a man must be much conversant in practice to be able to inform me, as certainly, which is the properest time of administering any particular remedy, in all the different stages of diseases, and throughout the course of the cure.

24. And, in reality, I am fully persuaded, that nothing tends more towards the forming a true judgment of this, than an accurate observation of the natural symptoms

The use and abuse of chemistry hinted.

Medicine, how best improved.

ptoms

ptoms of diseases, and the medicines and regimen which appear from practice to be beneficial or detrimental. From a careful comparison of all these things together the nature of the distemper appears, and the curative indications are much better and more certainly deduced, than by endeavouring to find out the nature of any determinate concrete principle of the body to direct myself by. For the most curious disquisitions of this kind are only superficial reasonings, artfully deduced, and cloathed in a beautiful dress, which, like all other things that have their foundation in the fancy and not in the nature of things, will be forgot in time, whereas those axioms which are drawn from real facts will last as long as nature itself (t).

25. But tho' all *hypotheses* founded in philosophical reasonings are quite useles, since no man is possessed of intuitive knowledge, so as to be able to lay down such principles as he may immediately build upon, yet when they result from facts, and those observations only which practical and natural phænomena afford, they will remain fixed and unshaken: so that though the practice of physick, in respect of the order of writing, may seem to flow from the *hypotheses*, yet if the *hypotheses* be solid and true, they in some measure owe their origin to practice. To exemplify this remark: I do not use chalybeates and other medicines that strengthen the blood, and forbear evacuants in *hysteric* disorders (unless in some particular cases, where I rather exhibit opiates) because I first took it for granted, that these complaints proceeded from the weakness of the animal spirits; but when I learnt, from a constant observation of practical phænomena, that purgatives always increased the symptoms, and medicines of a contrary kind ordinarily quieted them, I deduced my hypothesis from this and other observations of the natural phænomena, so as to make the philosopher in this case
sub-

(t) Physic undoubtedly had its origin from observations, whether made by accident or with design, and was not the effect of human invention; whence experience should seem the most direct and effectual means of improving it. The physician, therefore, till physic can be made more scientific, would do well to consider himself as the servant and interpreter of nature; for without observing her ways, and pursuing them closely, nothing great can be done in the cure of diseases, but much mischief.

subservient to the empiric. Whereas to have set out with an hypothesis would have been as absurd in me, as it would be in an architect to attempt to cover a house before he had laid the foundation, which only those who build castles in the air have a privilege of doing, as they may begin at which end they please [u].

26. But to resume our subject: whatever passages those are through which the water passes from the cavity of the belly into the intestines, I am sure that the vomiting occasioned by the above-mentioned emetic does powerfully evacuate it, both upwards and downwards. For after the second or third puke, the waters do not seem to be forced out so much by the secretory virtue of the medicine, as to run with a full current, the obstruction being in a manner broken down, and the sluices opened, as manifestly appears by the frequent impetuous evacuation of the waters in the intermediate spaces of vomiting [w].

The infusion of *crocus metallicum*, an excellent *hydragogue*.

27. A poor woman, about fifty-five years of age, Verified in begg'd my assistance in *August* last. She had long been a case. afflicted with an intermittent fever, and afterwards lain

(u) In this our judicious author is worthy of the closest imitation; for whoever sets out to practice with the strong bias of a favorite hypothesis on his mind, is sure to be bewildered and confused, and commit a thousand mistakes. Against so preposterous and wrong a step, the young practitioner cannot be too strenuously cautioned, nor too earnestly advised to lay the greatest, I had almost said, the whole stress on experimental knowledge, and not to quit the less agreeable, perhaps, but the sure and safe road of observation, so long as there are any traces of it to be met with in this way.

Sydenham, it must be confessed, sometimes so far forgot himself, as to depart from it, notwithstanding the frequently repeated, and cogent remonstrances contain'd in his writings, to the contrary; but hardly ever without betraying his judgment, and leaving his readers in the dark: — which makes this hint so much the more needful, as well as more important. See his preface. *Sparcim*.

(w) If p. 477. par. 29. — p. 478. par. 32. and p. 481. par. 38. be consulted, our author's opinion of vomits, and in what kinds of dropsy they are proper, will appear more clearly.

Vomiting, in strong constitutions, has often proved very effectual, says *Dr Arbuthnot*, for the concussion of the solid parts dissolves and dispels the stagnating humours and even clysters of proper ingredients are very beneficial.

Sydenham does not once mention bleeding in this distemper, which is frequently necessary, because the blood is thick and inflam'd; and wherever it is so, is always perform'd with advantage.

lain in prison three years: she had suffered much from cold, and her belly was more swelled than I had ever seen any person's before. I gave her, an ounce and half of the infusion of *crocus metallorum* for three days running, and afterwards every other day, as her strength would bear, till she had taken six doses. The first puke occasioned a total suppression of urine, which she afterwards voided sometimes, tho' very rarely, by intervals; and the oftner the vomitive was repeated, the more water usually came away, and, towards the end of the operation, both upwards and downwards. But after the third dose the swelling began to fall, and in a fortnight her belly appeared to be shrunk a yard, by the thread with which I had ordered it to be measured at first, and she assured me that she had computed she had voided several gallons of water. This enabled her to lay her head upon the pillow, and turn from side to side, as she pleased, whereas before she was constrained to sleep in an upright posture, for fear of being suffocated by the weight of the waters. But the vomits by their violent operation raised the vapours so much, as to render their further use unsafe, whilst, notwithstanding, the remaining swelling of the belly, and the motion of the waters which she perceived upon turning herself in bed, and likewise the pits in the legs, which kept depressed after any thing was pressed against them, fully manifested that there was still much water in her belly; for these reasons, I say, I was forced to finish the cure with purgatives. Accordingly, I afterwards prescribed either the above-mentioned purging potion, or some other *hydragogue*, seldomer or oftner, as her strength and the vapours would permit; for purgatives do in some measure cause *hysteric* disorders, tho' of a gentler kind than vomitives ordinarily do. I continued this method till she seemed to be recovered.

Remarkable particulars happening during the course.

28. During the course the following remarkable particulars happened. (1.) On the intermediate days of purging, she sometimes voided water plentifully downwards, and, towards the latter end, by urine also, to the quantity of a gallon in a day, tho' I allowed her only a pint and half, or a quart of liquor, during that space of time: so that all the passages seemed to be open [x].

(2.)

(x) Two drams of salt of tartar dissolv'd in two quarts of a light

(2.) Towards the conclusion of the cure the purgatives raised the vapours, and the belly swell'd much towards the breast, as if it had been fill'd again with water, which yet I knew could not be, because she drank so little, and consequently that the swelling proceeded only from *flatus*, occasioned by the hurry raised by the purges: and the event verified my opinion. For tho' she parted with a gallon of water in a day when she purged, yet her belly soon began to swell upwards, causing a difficulty of breathing, and did not fall till the disorder occasioned by the purgative was gone off, and the body had recovered its natural state and rest; then the swelling and other symptoms vanished suddenly, and returned not till they were again occasioned by the succeeding purge. (3.) Lastly, tho' this woman, who was above fifty years of age, had not had her *menfes* for several years past, they now flowed again violently, and this discharge, coming upon the preceding evacuations, greatly increased the number of hysteric symptoms, *viz.* the severe pain in the back, in the region of the spleen, and in the head, joined with a severe cough. And further, tho' it might seem highly probable that but little water remained in the body, after so large a quantity had been discharged upwards and downwards, and by urine likewise, yet the belly continued as much swell'd as it usually was before any evacuation had been attempted. In order, therefore, to quiet these motions, which made her uneasy for a week after the last purge, I was constrained to give an ounce and half of *diacodium*, for four nights running, and to order the dose to be repeated in three hours, in case she got no rest: and by this means these symptoms were quieted, and the swelling vanished (y).

29. In the mean time it must be noted that if the belly be not much swelled, the waters are not so readily evacuated by the infusion of *crocus metallorum*, as in case of a large swelling thereof: for the very bulk of
In what case purgatives are best.

the

light decoction of the woods, makes a good common drink in this case, and is much better than small beer.—Or sometimes barley-water, acidulated with the acid elixir of vitriol, may be used for the same purpose. See p. 480. par. 36.

(y) The simple syrup, with a few drops of the thebaic tincture, makes an extemporaneous diacodium of a certain strength, and which may therefore be better depended on than the syrup which usually goes by that name. See p. 480, par. 36.

the water, whilst it is agitated and shaken by the operation of the vomitive, wonderfully promotes its own evacuation; so that for this reason, unless the belly be considerably swelled, it is best to rely entirely on cathartics.

A decoction of the inner bark of elder, curative of the dropsy.

30. There is another pretty common and simple medicine, which cures the *dropsy* in the same manner as the emetic; it is made by boiling three handfuls of the inner bark of elder in a quart of milk and water to a pint, half of which is to be taken morning and night every day, till the cure be compleated. This medicine works upwards and downwards, like the infusion of *crocus metallorum*, and therefore cures the distemper in the same manner, and not by any *specific* virtue: for in case it does not vomit or purge at all, or but gently, it does no service; but if it operates effectually either way, and especially both ways, it proves an admirable medicine in the *dropsy* (2).

When strengthening medicines are to be preferred to evacuations.

31. But, in reality, it is well worth noting, and a common case, that water is deposited in the legs, thighs, and even in the belly, which nevertheless must by no means be evacuated either upwards or downwards. As for instance; (1.) in case a swelling of this kind succeeds a consumption of long standing; or (2.) proceeds from the putrefaction and disorder of some of the bowels; (3.) from poor weak blood; (4.) old fistulas in the muscular parts, accompanied with a considerable discharge; (5.) great weakness, and an immoderate evacuation of the juices, and spirits by a salivation, sweating, or purging; or (6.) from too slender a diet in the cure of the venereal disease. In these and other disorders arising from such causes, purging not only avails not, but increases the distemper by further weakening the tone of the blood; so that in these cases the cure depends entirely upon strengthening the blood and bowels in the most effectual manner. And, amongst other things of this kind, besides the strengthening medicines hereafter to be enumerated, experience hath taught me that this intention is admirably answered by change of air, and exercise suited to the strength of the patient; the spirits being hereby revived, and the excretory organs restored to their proper functions.

32. There

(2) An ingenious physician of my acquaintance tried the inner bark of the common elder, but did not find it answer his expectation.

32. There are other cases, likewise, where the waters are not to be discharged by vomiting nor purging; for instance, in weak constitutions, and hysteric subjects, they cannot be evacuated by *purgatives*, and much less by *vomitives*, but are to be carried off by *diuretics*. Several of this kind are extolled in the writings of physicians, but the most, if not the only efficacious ones, in my opinion, are those prepared from *lixivial* salts, from whatever plant the ashes be obtained, But as *broom* is easily procurable, and much esteemed in this disease, I generally order a pound of the ashes of it to be infused cold in two quarts of *rhenish* wine, with one or two pugils of *common wormwood*, and prescribe four ounces of the filtered liquor to be taken constantly every morning, and at five in the afternoon, and at night, till the swelling disappears; and by this remedy alone I have known this distemper cured, in persons of too weak a constitution to bear purging, when the case was judged desperate (a).

33. (2.) To proceed now to the second intention: The blood after the waters, whence this disease immediately proceeds, are wholly evacuated, in general only half the work is done, inasmuch as the weakness of the blood, whence it originally proceeds, remains to be removed by a long and daily use of heating and strengthening medicines, in order to prevent a fresh collection of water, or, in other words, a relapse. For though young persons frequently recover, after the waters are sufficiently carried off, without any other help, their natural heat supplying the place of the abovementioned remedies, yet the antient and infirm, under these circumstances, must have immediate recourse to such simples as warm and strengthen the blood (b).

The blood
to be
strengthened
after
the waters
are carried
off.

L 1

34. And

(a) The fix'd alkaline salts are the most powerful diuretics; but where there is a fever, the neutral salts, and especially the diuretic salt, commonly called the foliated earth of tartar, are preferable to all others.

Boerhaave reckons all aqueous dilutents, as *diuretics*, and all salts, without excepting a single one of any kind, all saponaceous medicines, the saline parts of animals, all such acrid remedies as chiefly stimulate the kidneys, and some balsamic aromatics, especially those of the turpentine kind.

(b) When the extravasated serum is evacuated, says *Dr Arbutnot*, the diet ought to be such as strengthens the solid parts, allowing spices and generous wine, and especially the use of chaly-

The medi-
cines pro-
per in this
case.

34. And here, besides those hereafter to be set down, recourse may be had to such as I have commended above in treating of the *gout*, whether of the medicinal or dietetic kind, or belonging to the rest of the non-naturals, inasmuch as these two diseases have this property in common, namely, that the same strengthening remedies tend to remove the original cause in both; only *wine*, which should be wholly refrained in the *gout*, may be advantagiously used in the *dropsy* for common drink. It must, however, be owned, that as we only learn from the apparent symptoms, and the effects of whatever does good or harm, that both these and several other *chronic* diseases proceed from the weakness of the blood and indigestion, we have yet but a superficial knowledge of distempers, and cannot find out their essential differences, and the *specific* ill qualities of the juices, arising from such indigestions, the common cause of all *chronic* diseases. Add to this, that we are utterly ignorant of the various peculiar alterations in acute *diseases*, proceeding from the same cause, namely, the inflammation of the blood. Since, therefore, we have no *specifics* for these and other *chronic* diseases, we are constrained to adapt the curative method to the more general cause, rather than the essential nature of diseases; varying the procedure occasionally, conformably to the spontaneous indication used by nature in expelling diseases, or being guided by experience, which teaches the best method of cure in every distemper.

Wine to be
drank free-
ly, after
the water
begins to
pals off.

35. Again, in order to answer the intention under consideration, *viz.* the strengthening the blood, whether the evacuation of the water be procured by this diuretic medicine, or by purging, or vomiting, in the manner above specified, the patient, if able to purchase it, must be ordered to drink *wine*, during the course of the cure, after the passages are in some measure opened, and way is made for the water to pass off. Or, otherwise, instead of wine he should drink good strong beer, because all small and cooling liquors, how agreeable soever they may be to the palate, by reason of the thirst which generally accompanies this disease, render

chalybeate waters, abstinence from all other sorts of liquors, dry food and astringent vegetables, exercise and especially riding, and, in general, such a diet as breeds good blood.

render the patient more phlegmatic, and increase the water, and for this reason are seldom or never to be allowed. Whereas, contrariwise, strong liquors, excepting distill'd spirits, promote the recovery so much, as sometimes to effect a cure alone, in the beginning of the disease, when there is but little water in the belly, and especially if they be impregnated with heating and strengthening herbs. Thus I have ordered persons of low circumstances, who could not purchase better remedies, to infuse a sufficient quantity of *horse radish root, the leaves of common wormwood, scurvy-grass, sage, the lesser centory, and the tops of broom in strong beer*, and use it for common drink. Persons of fortune may infuse the same ingredients in *canary*, and drink a small draught of it twice or thrice a day at proper times, with the above-mentioned medicines: Or *wormwood wine*, if more agreeable, may be used instead of this, taking nine spoonfuls of it, after two drams of the *digestive electuary* above set down, every morning, at four in the afternoon, and at night. This electuary sufficiently answers this intention, and is much the best strengthening medicine (c).

36. But it is of great moment in this case to drink very sparingly of small liquors, inasmuch as all of this kind in some measure increase the waters; and some persons have been cured by refraining from potables entirely: for which reason, if small liquors be sometimes indulged, they must be drank very moderately. However, as this disease is generally attended with great thirst, which is further increased by forbearing small liquors, it may be proper to wash the mouth often with *cold water*, acidulated with *spirit of vitriol*, or to hold a few *tamarinds* in the mouth between whiles, or chew a slice of *lemon*: but none of these must be swallowed, by reason of their coldness, which is prejudicial in this case.

Small liquors to be drank very sparingly.

Thirst, how allayed.

37. *Steel* is an excellent strengthener in the beginning of the disease, inasmuch as it warms and strengthens the blood: and for the same reason *garlic* is very serviceable: I have known the *dropsy* cured by *garlic* alone, by the direction of other physicians.

Steel and garlic good strengtheners.

38. It must be observed, that that kind of the *dropsy*, in which only the legs or the belly swell moderately,

L 1 2

docs

(c) See p. 481 par. 31.

Emetics and cathartics not required in all *dropfies*.

does not immediately require to be cured by *emetics* and *cathartics*, but frequently yields to the above-mentioned heating and strengthening liquors. It is, however principally to be noted, that whenever the cure is attempted by *strengthening* or *lixivial* medicines only, both rough and gentle purging must be forborn, because purgatives destroy the effects of strengthening medicines, as a person must needs own, who has observed the swelling fall from the use of strengtheners, and increase immediately upon purging. For though whilst we attempt to carry off the waters, it may be proper to give strengthening medicines between times; yet, when the cure depends altogether on strengthening the blood, we must not meddle with cathartics (d).

An inveterate *dropfy* incurable.

39. It must also be remarked, that the *dropfy* is not always cured by answering both indications; viz. (1) by carrying off all the water contained in the belly, and (2.) administering heating and strengthening medicines to prevent a fresh collection of water. For it often happens in an *ascites* of several years standing, that the waters, by lying a long time upon the bowels, alter their substance, and putrefy them and the neighbouring parts, breed preternatural glands, and form small bladders full of a corrupted *serum* (e), and reduce all the parts situated in the cavity of the belly into a kind of putrefactive state, as appears upon dissecting the bodies of those that die of an inveterate *ascites*. The distemper in this state is incurable in my opinion, but nevertheless, as the physician cannot certainly tell how much the bowels are injured, he ought to do his best to forward the cure by evacuating and strengthening medicines, and not to lose all hope himself, or cause the patient to dispond. And it is for this reason his duty to act thus, because in abundance of diseases, when the morbid matter is quite carried off, nature, which perpetually helps us, contrives spontaneously, in a wonderful manner, to expel the pernicious remains of the distemper. Hence every kind of *dropfy*, how obstinate soever it prove, and how much soever it may have injured the bowels, may be treated in the same manner as if it was recent.

40. As to *topics*, or external applications, according to

(d) See p, 428 note (i)

(e) These are usually called *hydatids*.

to the best of my observation, they never do much service in this disease. The least pernicious are those which are applied by way of cataplasim or liniment to the belly to discuss the swelling; tho' I do not see how the waters can be discussed. But there are other things prescribed by some instead of internal medicines, which are so far from being serviceable, that they generally prove detrimental; as ointments made of strong purgatives, and applied to the belly, and blisters to the legs and thighs, to discharge the water when the parts are considerably swelled. But both these applications are unsafe; for by the former the purgative quality of the ingredients is so deeply fixed in the muscles and membranes, as to occasion an incurable *hypercatharsis*, or super-purgation; and as to blisters, which empirics commonly apply to the above mentioned parts, they quite extinguish the natural heat, much diminished already by the stagnation of the water, and thus often cause a gangrene, which is too common an accident in this case. For the slightest wound is very difficultly healed in dropfical subjects, especially in a depending part, because the substance of the flesh in these parts is so surcharged with moisture, that the *serum* flows continually through any passage it finds, and thereby obstructs the healing of the wound. And in my opinion the operation of the *paracentesis*, commonly called *tapping*, which some practitioners commend, is not less hazardous, or more successful than blisters (f).

L 13

41. To

(f) The operation of *tapping* was not so commonly practised in our author's time, as it has been since, and is at present, and besides, was generally deferred so long, till the weakness of the patient, and the scirrhus, corrupt state, or erosion of the *viscera* rendered it useless, so that it should not seem strange that he entertained so unfavourable an opinion of it. Sir *Theodore Mayerne*, who was for sometime cotemporary with him, has not once mentioned it in his chapter on the *dropsy*, to be found in his works.

But to demonstrate its usefulness, we cannot do better than recommend to the reader's perusal, the description given of the operation, and the success attending it, by Mr *Sharp*, in his treatise of the operations of surgery, who concludes the chapter of the *paracentesis*, with these words: This operation, though it does not often absolutely cure, yet it sometimes preserves life a great many years, and even a pleasant one, especially if the waters have been long collecting. I have known several instances of people being tapp'd once a month, for many years, who felt no disorder in the intervals, till towards the time of the opera-

41. To conclude: tho' when this distemper is become a true *ascites*, it has always been held incurable, it will nevertheless be found as certainly curable, provided it be treated according to the method above delivered, and the bowels be sound, as several other diseases that are ordinarily esteemed less dangerous (g).

The remedies not contemptible for their simplicity.

42. But if any one should find fault with these remedies, as being simple and evidently artless, I may with more reason reprove him, for his vicious turn of mind, in exclaiming against curing other persons with such simple medicines, when he would wish to be cured himself, or have his wife, or children cured, in case of sickness, by the simplest and cheapest remedies. To which we may add, that he exposes his weakness by making so trifling an objection, as the lustre and excellence of the art of medicine are not so clearly seen in elegant prescriptions, as in curing diseases.

The author vindicates his other works

43. These are the observations I had to communicate on these two diseases, the *gout* and *dropsy*, and I believe I shall hardly meddle with any others. And as to the works I have already published, if a person will only give them a single reading, I am sorry I should be the means of making him lose his time; but if he will peruse them often, and commit them to memory, I dare say he will reap such advantage from them, as may in some measure equal my wish, and the great pains I have been at, in making and compiling them. (b). And, indeed, the faithfulness wherewith they have

operation, when the distention grew painful; and there are instances where the patient has not relaps'd after it. Upon the whole, there is so little pain, or danger in the operation, that in consideration of the great benefits sometimes received from it, I cannot but recommend it as exceedingly useful.

(g) An *Ascites*, coming upon other diseases, in which the *viscera* were actually tainted, or approach'd that state, and attended with an extravasation of *serum*, occasioned by a rupture of some lymphatic vessels, or hydatids, a wasting of the upper parts, great thirst and an evacuation of a very high-coloured urine, in a small quantity, which drops a sediment upon standing, may in general be reckon'd incurable.

(b) Our author's writings contained so many important practical remarks and observations in abundance of distempers, a fund of useful knowledge so necessary to a physician, that they deserve to be diligently studied, well digested, and carefully remember'd; for which purpose a single perusal of them can never be judg'd sufficient. Were I to prefix a mottoe to his works,

have been delivered, can only be learnt by being conversant in practice, and as accurate and diligent an observer as I have been. But if, in the few things I have wrote, I have kept close to nature, without embracing the opinion of any man, tho' of the greatest eminence, I am persuaded the judicious part of mankind will not condemn me, who cannot but know that the improvement of medicine is alike obstructed by two sorts of men. The first are those who do not at all contribute to improve the art they profess, but hold those in contempt who do so in the smallest degree; and these men screen their ignorance and idleness with the specious pretence of an extraordinary respect for the antients, from whom, they contend, we ought not in the least to depart (i).

The improvement of medicine, by whom obstructed.

L 1 4

44. But

works, therefore it should be the celebrated one that *Horace* uses on a like occasion.

Nocturna versate manu, versate diurna.

Read them by day, and study them by night.

MR FRANCIS.

(i) This is indeed an idle and absurd pretence, and deserves to have a severer censure passed upon it. Several of the antients were, without doubt, men of superior abilities, as abundantly appears from the writings they have left behind them, especially in what relates to the history of distempers, whence we are furnish'd with so excellent a set of the diagnostics and prognostics. *Hippocrates* perhaps (not to particularize the excellencies of the rest) has surpass'd all that went before, or have succeeded him in this particular, having been an indefatigable and accurate observer of nature. To the antients, likewise, we are indebted for the methods of curing some inveterate chronic diseases, by a proper and long continued use of the *non naturals*, the introduction of bathing into medicine, lately revived, and now so universally and successfully practis'd, cupping, and many other capital remedies.

But it would be a great piece of partiality to deprive the moderns of that share of reputation, to which they have so just a title, for the many useful discoveries they have made from time to time, among which the circulation of the blood, found out by our ingenious countryman *Dr Harvey*, deserves to be mentioned in the first place: a discovery which rescued medicine from the contempt it had lain long under, on account of its obscurity and mystery, and let in so much light into the theory and practice of the art, as to set it upon a surer foundation, and recommend it more effectually than ever, to the protection and encouragement of men of genius and candid dispositions.

Is not the present improv'd state of chemistry, pharmacy, anatomy, and surgery, wholly owing to the labour and application of the moderns? How much we surpass the antients in these branches

44. But why do we own that all other arts, which are of less importance to mankind, have been considerably improved without doing any injury to the antients, and hold physic alone to be entirely perfect? Could not the inventors of the surer way of sailing, now practised, try the use of the compass, which succeeds so well, without contemning the antient mariners, who being less skilful directed their course by observing the stars, and the windings of the land? Or why must the more accurate and perfect art either of building ships, or commanding them in engagements, in which the inhabitants of the *western* parts of *Europe* are best skill'd, be a reflection on those ship-carpenters, who built the fleets that engaged at *Actium*; or on *Augustus* and *Mark Antony*, who were such great commanders both by sea and land? Besides, there are almost numberless examples of things discovered by the moderns, which eminently excel the inventions of the antients, the inventors whereof are no more to be excused of lessening

branches of medicine, will appear to any skilful and impartial enquirer, upon comparing the figure they now make, with the despicable one they made in their time.

To pay, therefore, an unlimited and servile deference to the antients, is to insinuate that the art of medicine hath attain'd its ultimate degree of perfection, the improbability whereof will be manifest upon taking a view of the advancements it has made in good hands for a century or two past, and sufficiently intimate, that if skill and application be not wanting, it will continue to improve daily. In effect, if we are blindly and implicitly to decide in favour of the antients, and adhere strictly to their opinions in all matters alike, our understanding will lie uncultivated, and reason be of as little use to us in these particulars, as if we had none at all: error may claim prescription from its antiquity, and lately discovered truth be rejected for its novelty; which would be taking so preposterous and irrational a method of cultivating a science, that is to grow up from facts chiefly, and receive its best improvements from rigorous and well-warranted experience, as would certainly and justly be condemned by the considerate and judicious part of mankind.

To draw a parallel between the antients and moderns, I neither intend, nor am able; but right reason requires a just medium to be observed in passing a judgement on either, so as not to betray an obstinate attachment, to the antients, or a groundless and partial contempt of the moderns.

For further light into this interesting matter, *Dr Barker's essay on the agreement betwixt antient and modern physicians, &c.* may be consulted. And the learned reader is referred to *Ramazzini's* works for an entertaining oration on the same subject.

fening our opinion of the antients, than a son is of lessening the reputation of his father, who by his prudent management and industry, improves his inheritance.

45. There is likewise another kind of men, who, out of a vain affectation to pass for persons of a superior understanding, plague the world with speculations, that do not at all contribute towards the cure of diseases, but rather tend to mislead, than to direct the physician. It should seem that nature has given these men wit enough to reason in a superficial manner about her, but denied them judgment, to teach them that all the knowledge of her is to be had only from experience; the human mind being restrained to the narrow limits of knowledge, derivable from the senses. Whence, tho' a man may become as wise as his state will allow, yet no one will ever attain to be a philosopher, at least, in the degree that great name imports. But all the philosophy of a physician consists in searching into the history of diseases, and applying such remedies as experience shews to be curative thereof; observing, as I mentioned elsewhere, the method of cure, which right reason, founded on the trite and natural way of thinking, and not on vain speculations, points out (*k*).

P O S T.

(*k*) The ridiculous vanity of being esteemed persons of a happy invention and prolific genius, has prevailed with some men in all ages, to launch out into philosophical speculations, and form systems, rather than to illustrate the history of diseases, and establish the methods of cure on a more solid basis, by the more painful way of making new observations, and verifying such as were transmitted by their predecessors.

These men have wholly employ'd themselves in searching into the *minutiæ* of anatomy the latent, remote, and absolutely inexplicable causes of diseases, the shape and bulk of the constituent parts of medicines, and their manner of operating, studying the mathematics, and endeavouring to account for what passes in the human body, by applying the principles of this science thereto, which in most cases impose upon them, and render matters more obscure and perplexed than before.

'Tis certain that we have received no innate knowledge of the nature of bodies, or of the invisible and inscrutable causes of natural effects; and it being impossible to find them out by experience, as they do not fall under the notice of the senses, we shall look upon them as things absolutely undiscoverable, and an attempt to discover them, a fruitless labour. And indeed the different opinions we meet with in systematic writers upon the same subjects, is of itself sufficient to make us distrust this method of coming at a knowledge of nature, to set lightly by the pretended discoveries hence arising, and to stand continually on our guard to prevent being led into error thereby.

The

POSTSCRIPT,

Treating of the Causes, Signs, and Cure of the WINTER-FEVER.

The rise
and con-
tinuance of
the winter-
fever.

1. **W**ITH the readers leave I will here subjoin an observation of moment, concerning the discovery and cure of fevers, which escaped my memory, or otherwise had been mentioned in a proper place. I have found a certain fever prevail from the beginning of winter to the beginning of spring, which, both in the symptoms and method of cure, manifestly differs from the then reigning *stationary*; or *epidemic* fever of the general constitution, and is therefore to be reckoned amongst those fevers I call *intercurrents*.

Its causes.

2. It seems to proceed from the coldness, density, and moistness of the air, whence the pores of the skin are closed, and the blood, from an obstructed perspiration, loaded with a copious *serum*, which, by its long continuance in the vessels, becomes prejudicial, putrefies, and easily raises a fever upon taking cold, or from some other slight cause. And if there be much morbid matter, it occasions such a fever as we have described, under the title of the *bastard peripneumony* (1). But if there is only a small quantity of morbid matter, it only produces the symptoms I proceed to enumerate.

Symptoms

3. (1.) Paroxysms of heat and cold succeed alternately for a day or two after the beginning of the fever; (2.) a pain in the head and limbs, and an universal restlessness accompany it; (3.) the tongue is white; (4.) the pulse much the same as in a healthy person; (5.) the urine turbid and high coloured, and (6.) the blood like that of *pleuritic* persons; (7.) it is also generally attended with a cough, but not with such a difficult respiration,

The truly scientific knowledge of a physician consists not only in being able to distinguish diseases from one another, but the symptoms, which require the treatment thereof to be varied, and knowing the properest remedies for curing them, and the manner of prescribing them to the best advantage. A knowledge of all these particulars is so essentially requisite in a physician, that whoever is ignorant of any one of them, tho' he knows every thing else, may be pronounced a bad one, as, on the contrary, he may be reckoned a good one, who is thoroughly acquainted with them, and nothing more. See page note (a) and the Preface, p. 5.

(1) See p. 267

ration, straitness of the breast, and so violent a pain in the head in coughing, as ordinarily happen in a *bastard peripneumony*: Hence this fever has none of the distinguishing and capital symptoms of a *peripneumony*, tho' it differs from this distemper only in degree: I call it the *winter-fever*.

4. Tho' this fever in the beginning is only attended with the symptoms proceeding from taking cold, yet abundance of pernicious symptoms arise from treating it in an improper manner, which at length prove mortal. For if the patient be confined in bed, and tormented with cardiacs to raise sweat, and carry off the fever, which however is seldom affected, it is frequently accompanied with a delirium, a lethargy, a weak and irregular pulse, a dry tongue, and an eruption of red, and sometimes livid spots. These and the like symptoms, tho' they are reputed by some to proceed from the *malignity* of the disease, as they affect to term it, are in reality to be ascribed to ill treatment. For this fever being naturally highly inflammatory, cordials, and lying always in bed, add to the inflammation of the blood, which hurries and disturbs the spirits, and occasions a translocation of the morbid matter to the brain, and of course increases all the symptoms.

Ill treatment of it produces several bad symptoms.

5. To cure this fever, I endeavour to make a revulsion of the copious *serum* collected by the diminution of insensible perspiration in the winter, by bleeding, and to carry it off by repeated purgation. With this view, as soon as I am call'd, I order nine or ten ounces of blood to be taken away from the arm; and the next day I exhibit my common purging potion.

The method of cure particulariz'd.

Take of tamarinds, half an ounce; the leaves of senna, two drams; rhubarb, a dram and half; boil them together in a sufficient quantity of water to leave three ounces of strain'd liquor, in which dissolve manna and solutive syrup of roses, of each an ounce: mix them together for a purging potion, to be taken betimes in the morning.

A purging draught.

I repeat this potion twice more, interposing a day between each purge, provided all the symptoms do not go off before. And in the evening after the operation I give an ounce of *syrup of poppies*, for an opiate. On the intermediate days of purging, if the patient has a cough,

Of the Winter Fevers.

cough, I prescribe the *pētoral decoction*, and a *linctus* made of fresh-drawn oil of *sweet almonds*, *syrup of maiden-hair*, and *syrup of violets* mixt, to be taken between whiles. And to allay the excessive heat of the blood, if the fever be very violent, I prescribe an emulsion of the cold seeds, and also the following julap.

A cooling
julap.

Take of the distill'd waters of water lilly, purslain, and lettuce, each four ounces, syrup of lemons, an ounce and half; syrup of violets, an ounce: mix them together for a julap, a draught of which may be drank at pleasure.

The regi-
men.

6. In the mean while I order the patient to keep from bed in the day-time, and to forbear flesh: but after the first or second purge, I allow him a draught of thin chicken broth now and then. It must, however, be noted, that if any violent symptom, as a difficulty of breathing, or a sharp pain in the head on coughing, shews that this distemper nearly resembles a *bastard peripneumony*, both bleeding and purging must be repeated at proper intervals, till the symptoms vanish entirely; and the patient is to be carefully treated according to the method laid down in our discourse on that disease (m). But the fever under consideration very seldom proves so violent, as to require any farther evacuation after bleeding once, and purging thrice.—But enough of this, which, however, I thought proper to mention, that this *winter-fever* might not be reckon'd a *stationary*, or an *epidemic* fever of any general constitution; being certain abundance of persons have lost their lives, for want of attending to, or knowing this particular (n).

(m) See sect. vi chap. iv. p. 267

(n) Huxham, in his book intitled *Observationes, de Aere & Morbis Epidemicis*, p. 136. has given us a description of a fever much like this, and asserts, that it is nearly of the same kind. And the kindly catarrhal fever which *Hoffman* so accurately describes, and treats so judiciously, does likewise greatly resemble it.

Medical History

OF THE

ESSAYS

ON THE

Causes of a NEW FEVER

IN

THE DISTRICT OF

THE DISTRICT OF

Schedula Monitoria:

OR, AN

E S S A Y

ON THE

Rise of a **NEW FEVER.**

To which is added,

TWO DISSERTATIONS.

One, on the **PUTRID FEVER**, happening in the confluent **SMALL-POX**; and the other, on voiding **Bloody-Urine**, from the Stone in the Kidneys.

Dr CHARLES GOODALL.

Fellow of the COLLEGE of PHYSICIANS.

AS soon as I came to a resolution of publishing my late remarks on the fever of the present constitution, I thought myself obliged to dedicate the performance to you, principally, for two reasons. The first is, because you are my intimate friend, and have constantly defended me against all my opponents; not so much for my own sake, as out of an inherent generous disposition, and great integrity of mind, which induced you to support me in what you knew was truth, tho' at a time when most of the faculty exclaimed against me.

I ought not however to be, nor indeed am I, offended with them; for as many vile pretenders to the art of medicine, by extolling their fanciful speculations, in order to increase their reputation, have so frequently imposed upon mankind, it was altogether becoming wise and ingenious men not to admit hastily, and without a previous examination, the particulars delivered by me, which were very opposite to the received method of practice. Notwithstanding this, as I am not less indebted to you, I judge it my duty to make you a public acknowledgment; gratitude being the distinguishing mark of a great and noble soul.

The other reason of my addressing this treatise particularly to you, is the intimate acquaintance and correspondence which hath been between us for several years, whence you must needs be the best judge of the pains I have taken to collect the observations I have already publish'd, relating to the history and cure of various diseases. And tho' they were printed separately, and at the distance of some years from each other, according as I came to the knowledge of them, yet they are, in my opinion, so deficient and imperfect, that I ought rather to be ashamed of, than expect any reputation from them. But this may be at least pleaded in my behalf, that tho' the space of thirty years, which I have diligently employed in observing diseases, should seem sufficient to give a person a compleater knowledge of them than I have attained, yet I scruple not to affirm, that though the same compass of time is more than enough to perplex the mind with speculative and fictitious reasonings, borrow'd from books, which contribute no more to the cure
of

of diseases, than painting does to the improvement of navigation, yet, four times the number of years would be too little, even for a physician in full practice, to carry every branch of medicine to perfection. I have used my best endeavours to collect the most accurate observations, and sent them to the press without delay, that the public might immediately reap the benefit of them, in case they contained any thing of use: and having thus done my duty, my mind is at rest, and I am not at all solicitous what reception my writings may meet with. To this give me leave only to add, that as a person who does not esteem them will do me no prejudice, so, whoever gives them but a single reading will be but little the better for them.

But enough of this: and now, worthy Sir, let me intreat your kind acceptance of this performance, which I intend as a publick acknowledgment of the great respect I bear you, in which others also join with me, who are less acquainted with your merit than I am. As I have not the least dependance upon you, I cannot justly be supposed to flatter you, by openly professing as I do (to speak within compass) that there is not a better physician living, and that I never knew an honest man.

It is my wish, that you may outlive me many years, and be at the head of the profession, not so much to raise a fortune for your heirs (which, in comparison with the subsequent reason, betrays more of the brute than the man) as to teach mankind the methods of overcoming those difficulties in curing diseases, which have hitherto perplexed the art of medicine, and hindred its improvement. And, in order to this, you may, if you think fit, build upon the foundations I have laid, but yet, so as to correct, with your usual humanity, the mistakes I may possibly have made in my observations on the history and cure of any particular disease, when any such shall appear manifest to you from a long course of experience. Nor will this be doing the least injury to the memory of one after his decease, who, in his life-time, had nothing more at heart than the improvement of medicine, by whomsoever it was effected, not so much, indeed, by learned discourses on the nature of distempers (of which we have already too many) as by a certain and genuine method of curing them. Adieu, worthy Sir, and continue your friendship to

Your most oblig'd humble servant.

THO. SYDENHAM.

Schedula Monitoria :

O R

An ESSAY on the Rise of a NEW FEVER.

The rise of
a new con-
stitution
and fever.

I. **T**H O' my declining age, and a constitution much broken, by long illness, might justly excuse me from any great application of mind, yet I cannot forbear my endeavours to contribute towards the health of others, though at the expence of my own, by advertising my countrymen of the entrance of a new constitution, which has given rise to a new and very different kind of fever from those which lately prevail'd.

Preceded
by a sharp
frost.

2. It must be remember'd that intermittent fevers began first in *autumn*, in the year 1677, and increased daily, and became epidemic till they came to their state or height; and afterwards gradually decreased, so far as in the latter years of this constitution to appear so seldom, that they could scarce be reckoned epidemic (o). And for this reason it must also be observed, that the two last years of this constitution, now in its declension, were respectively attended with a very severe winter, especially the former, *viz.* in 1683, in which the cold was sharper, and lasted longer than the oldest person living remembered it had done before: for the *Tinnes* was froze over so hard, as to bear the weight of carts, and booths with different sorts of merchandize, and vast crouds of people. Tho' the cold was neither so severe, nor lasted so long, the following year, namely, in 1684, yet, as soon as it began to thaw in *February* 1685, the fever I intend to treat of here appeared, which I esteem a new sort of fever, and altogether unlike the fever of the eight foregoing years.

When the
fever first
appeared.

Whence
the change
of the con-
stitution.

3. Now, whether the change of this constitution is to be ascribed to the alteration of the manifest qualities of the air, which happened during these two winters, I know not, as having observed that no alterations of the sensible qualities of the air, however different, have produced species of *Epidemic* diseases; and that a cer-
tain

(o) See p. 274, 275, par. 10, 11.

tain succession of years, tho' they have differed from one another in their outward appearance and temperature, have, notwithstanding, all conspired in producing the same species of *stationary* fevers. Having, therefore, maturely considered these particulars, I concluded, as I have elsewhere remarked, that the change of a constitution depends principally on some secret and hidden alteration in the bowels of the earth, communicated to the whole atmosphere, or on some influence of the planets, (p.) It must, nevertheless, be noted, that upon the departure of the *depuratory* fever some time ago, a severe frost happened in the beginning of winter in 1664, which abated not till towards the middle of *March*, and was soon succeeded by a *pestilential* fever, and, in a short time afterwards, by the *plague* itself. But however this may be, the fever under consideration, which began at the above mentioned period of time, namely, in *February* * 1684, has spread itself all over *England*, both last year and this, and been much more epidemic in other places than at *London*.

4. When I was first call'd in this fever, I firmly believed it was not one of that species of fevers I call *stationary*, but rather of the class of *intercurrents*, which happen promiscuously in most years: so that I esteemed it the same kind of distemper as the *bastard peripneumony*, which I have described above (q); with this difference only, that this fever was sometimes not attended with those symptoms which characteriz'd and distinguish'd that disease; as (1.) a violent cough; (2.) a severe head-ach in coughing; (3.) a giddiness upon the least motion, and (4.) a great difficulty of breathing; all which are the general attendants of a *bastard peripneumony*. But as my bookseller press'd me, at that time, to give a new edition of my writings, I judg'd it proper to publish my conjecture by way of postscript, in which I now find I was mistaken; having, indeed, been led into it by the manifest likeness there appeared between this fever and the *bastard peripneumony*, which happens now and then every winter: but in the beginning of summer, which season commonly terminated those peripneumonic fevers, this fever still continued, whence, soon perceiving my error, I was fully persuaded

The author at first mistakes the species of this fever.

M m 2

(p) See p. 301 Note (g) * 1685. I think. (q) See sect. vi. chap. iv. p. 267.

suaded that this fever was to be referr'd to a new constitution.

Its symptoms enumerated.

5. This fever, from the justest observation I could make, was generally accompanied with these symptoms. (1.) Intervals of heat and cold succeeding each other, and (2.) frequently a pain in the head and limbs; (3.) a pulse not much unlike that of a healthy person; (4.) the blood taken away commonly resembling pleuritic blood; (5.) a cough mostly, which, with the other concomitants of a mild peripneumony, goes off so much the sooner, as the disease comes on at the greater distance from winter; (6.) sometimes a pain in the neck and throat in the beginning of the illness, but not so violent a one as in the quinsy; (7.) tho' the fever be continual, yet it often encreases towards night, as if it were a double tertian, or quotidian; (8.) lying always in bed, tho' with few cloaths on, is dangerous; for the fever being thereby translated to the brain, a *coma* or phrensy soon succeeds. And, to speak the truth, there is so great a tendency to a phrensy here, that it frequently comes on spontaneously of a sudden, without any such occasion, but rises not to such a height as it does in the small-pox, and other fevers: the patient being rather calmly, than furiously delirious, and talking wildly between whiles. (9.) *Petechiæ*, or eruptions frequently appear, occasioned by an unseasonable use of cordials, and a hot regimen, and in young persons of a warm constitution purple spots, which are certain signs of a considerable inflammation, both in this and all other kinds of acute diseases; (10) and sometimes such spots as are term'd *miliary* eruptions come out all over the surface of the body, appearing much like the measles, only they are redder, and when they go off, do not leave branny scales behind them, as in that disease: tho' these eruptions do sometimes come out spontaneously, yet they are frequently driven out by the warmth of the bed, and cordials. (11.) The tongue is either moist or dry, according to the regimen which hath been used; when dry, it is brown in the middle, and white round the edges; but when moist it is white and foul. (12.) Sweat, likewise, depends upon the regimen; for if that be over-heating, it is in a manner viscous, especially about the head, and, tho' it flows plentifully and universally,

affords

affords little relief; whence it follows, that such sweats are only *symptomatic*, not *critical*. The raising a sweat by medicine in the beginning of the distemper ordinarily translated the morbid matter, if not to the head, at least to the limbs. But when the fever has seized the head, and the phrensy prevailed, the signs of the former vanish, only the pulse beats sometimes quick and sometimes slow; at length, however, when the spirits are exceedingly hurried by wrong management, the pulse intermits with startings of the tendons, and death soon follows.

6. As to the cure; those signs of the peripneumony which accompanied this fever at its rise, soon after the beginning of winter, convinced me, as I said before, that it was to be referr'd to the class of peripneumonic fevers; and, therefore, I had immediate recourse to that method which I formerly recommended in the cure of a bastard peripneumony, in the postscript to my epistle on the dropsy. And, indeed this method agreed pretty well with the few patients which my ill state of health suffered me to attend, and with others, also, who used it upon my recommendation. Whatever motive it was that induced me to follow this method, I have since considered the symptoms of this disease, and the temperateness of the last year, which succeeded the two hard winters (especially of the winter season, which, in reality, on account of its mildness, scarce deserved the appellation) and it appears manifest to me, that this fever is only a simple inflammation of the blood, and consequently, that the curative indications are to be entirely levell'd at removing the inflammation by a suitable method, and medicines.

7. In order to this, I first direct ten ounces of blood to be taken away from the arm, and in effect, tho' the blood in this fever generally resembles pleuritic blood, yet it does not well bear repeated bleeding. But if a difficulty of breathing, a violent pain in the head in coughing, and other symptoms of this kind, shew the great tendency of this disease to a bastard peripneumony, bleeding and purging are to be repeated, till the symptoms entirely disappear, as we have intimated above, in treating of the latter distemper (r): and this I would have carefully noted.

M m 3

8. In

(r) See sect. iv. chap. vi. pag. 267.

8. In the evening I lay a blister between the shoulders, and next morning exhibit this lenitive potion.

A gentle
purging
draught.

Take of tamarinds, half an ounce; the leaves of senna, two drams; rhubarb, a dram and half; boil them together, in enough spring-water, to three ounces; in the strain'd liquor dissolve manna and solutive syrup of roses, each an ounce: mix all together for a draught, to be taken early in the morning.

I order this draught to be repeated every other day, till three have been taken, and the following, or a like opiate, to be given at bed-time after the operation.

A com-
posing
draught.

Take of the distill'd water of cowslips, two ounces; syrup of white poppies, an ounce; fresh lemon-juice, two spoonfuls; mix the whole for a draught.

This I do to prevent a *coma's* coming on, from the disturbance of the spirits, which purging often occasions; by the tumult it raises in the blood and juices of persons in fevers, which symptom yields to opiates, tho' they seem to promote it. For this reason, as I durst not venture to give a purge in the *comatous* fever of 1673, I persisted in the use of glysters, well knowing, that purgatives did then immediately cause a *coma*, which might perhaps have been prevented, if I had thought of administering an opiate after the operation of a cathartic (f).

9. But on the intermediate days of purging, an opiate must not be given at bed-time, for fear of stopping, or at least checking the operation of the purgative to be taken the next day, which usually happens, tho' it be given late. It is a rule with me, in this, or any other *epidemic* fever, to forbear purging in the beginning or state of the disease, unless bleeding hath been previously used; and for want of attending to this rule of practice, or from acting contrary to it, abundance of persons have been destroyed, especially children, as I have elsewhere observed by way of caution (t).

10. It

(f) See sect. v. chap. ii. pag. 203.

(t) See pag. 321, 322, par. 47

The reason of Sydenham's so frequently inculcating this practical direction, seems to be, because not a few physicians were of opinion that bleeding is prejudicial, unless the *primæ viæ* be

10. It must, nevertheless, be noted, that tho' all the above-mentioned evacuations ought in general to be used in the cure of this fever, yet young persons and children, often soon recover after being once blooded and purged, and require no more purging, the fever being conquer'd by the first cathartic: whereas, on the contrary, it is sometimes necessary to purge oftener than we have intimated above. For it happens, tho' not frequently, that the patient relapses in a few days after recovering by this method, occasioned by a fresh supply of febrile matter, which, however, is soon carried off by repeating the purgative a fourth time. But a return of this fever, when it is treated by this method, seldom happens, unless it be caused by the *aphthæ*, succeeding the former fever, now come to their height: which fever is, in reality, only symptomatic, and often accompanied with a hiccup at intervals, that continues also some days after the fever is gone off, and at length ceases spontaneously, as the patient recovers strength; which is well worth noting, inasmuch as the hiccup happening at the declension of this fever, is no way dangerous, unless several medicines be over-officiously and ineffectually administered, in which case it proves fatal. But both the *aphthæ* and hiccup, or either of them, if they do not go off spontaneously, but prove obstinate, readily yield to the *bark*; an ounce of it being made into an electuary, or pills, with a sufficient quantity of the *syrup of red poppies*, and taken in the manner I formerly directed in my epistle to Dr Brady, drinking a draught of whey after every dose (u). I have found this the surest medicine in this case, provided it be not rendered ineffectual by the patient's keeping his bed, which too often happens.

11. On the intermediate days of purging, I sometimes prescribe the following, or the like remedies.

M m 4

Take

be first cleansed, as the apprehended that the emptied veins would attract the morbid humours from these parts, as will appear upon consulting *Sennertus*, *Forestus*, and other medicinal writers. *Van Swieten Comment. in Aphor. Boerb. Vol. 2. p. 32.*

Dr Barker, in his essay on the Agreement betwixt Antient and Modern Physicians, has some useful cautions and observations relating to bleeding in acute distempers, which are well worth the reader's notice.

(u) See pag. 279. par. 21.

A cooling
electuary.

Take of the conserves of wood-sorrel, and of hips, each an ounce; conserve of barberries, half an ounce; cream of tartar, a dram; syrup of lemons enough to make them into an electuary; of which the quantity of a nutmeg is to be taken thrice a day, with six spoonfuls of the following julap after each dose.

A cooling
julap.

Take of the distill'd waters of purslain, lettuce, and cowslips, each three ounces; syrup of lemons, an ounce and half; syrup of violets, an ounce: mix the whole together for a julap.

Or,

Another.

Take of spring-water, a pint; the distill'd water of roses, lemon-juice, and fine sugar, each four ounces: boil them together over a soft fire, till the scum be quite clear'd away. Let three ounces of it be taken at pleasure.

I add no spirit of vitriol to any of these medicines, tho' it is very cooling, by reason of its remarkable stypticity, whence it is improper in all diseases requiring to be cured by purgatives; to say nothing here of the mineral nature of this spirit.

Sweating
not to be
depended
on in this
fever, and
therefore
not to be
promoted.

12. It frequently happens, especially in the declension of this fever, that the patient, when treated in this manner, sweats now and then spontaneously, in the night, which greatly abates all the symptoms; but notwithstanding, as such sweats are not to be depended on, the above-mentioned method must by no means be discontinued, because, if those sweats should be promoted longer, the fever, which had been in some measure check'd by the preceding purgatives, will increase again. For, if the sweat be prolonged beyond that space of time, wherein the febrile matter, prepared by due concoction, is entirely carried off, the following sweats will do nothing but raise a fresh inflammation. Hence, tho' those sweats which flowed spontaneously, might, perhaps, be critical, with respect to the expulsion of the febrile matter, fitted to be carried off, yet the subsequent sweats may be only symptomatic, and so do more mischief than good. In short, the gentle warmth of the bed in the night seasonably favours the sweat which flows spontaneously at that time, and, for this reason, the patient should have no more, nor thicker

ker clothes laid on him than he usually had when in health, and no heating medicines should be given to him, only let him lie later than ordinary the next morning, and afterwards pursue the methods of cure above delivered.

13. The diet in this case should be water-gruel, or barley-gruel, and now and then a roasted apple, and after the second purge, weak chicken broth. I order small beer to be drank cold for common drink, and the *white decoction*, made by boiling an ounce of burnt hartshorn in three pints of spring water, afterwards straining off the liquor, and sweetening it with fine sugar.

The regimen.

14. I have elsewhere observed, that when the patient hath been twice purged, there is no necessity to forbid his eating chicken, and the like food of easy digestion; this indulgence being allowable on account of purging, which otherwise could not be granted. Again, after the last purge, provided the fever be somewhat abated, and not yet entirely degenerated into an intermitting fever, three or four spoonfuls of canary may be given every morning, and after dinner, and again in the evening, for some days, which may promote the recovery of the patient's strength, and prevent the fever fits.

15. As this kind of fever is more apt to seize the head than any I ever yet saw, and cannot be removed thence without great difficulty and danger, I advise my patients to lie without their clothes only a-nights; but if they are so much debilitated by the disease that they cannot sit upright, I allow them to lie down upon the bed, or a couch, with their clothes on, and the head a little high: neither do I suffer a greater fire to be kept in the room, than they were used to, whilst in health.

Sitting up a days recommended.

16. This regimen is not only to be strictly follow'd from the beginning, in all that have this fever, except in women seized with it a few days after delivery; but must be indispensably enjoined, when the patient is attack'd with a phrensy, *petechiæ*, purple spots, or any other sign of a violent inflammation, occasioned by an over-heating regimen. For, in this case, neither bleeding, nor covering the patient thinly in bed, nor the use of any kind of cooling liquors will remove the fever, without sitting up in the day-time, inasmuch as the

Especially if the inflammation be violent.

heat

heat of the surrounding air, included in the bed by the coverings, puts the blood into too violent a motion, and the supine posture of the body hurries it violently to the head. But in this fever, when a phrensy comes on from ill management, it cannot be removed immediately, neither is it safe to attempt the cure by repeated bleeding and purging, beyond the limits prescribed, whereas it will at length go off at its own time, and spontaneously by means of the above-mention'd method (w). Nothing, however, secunds the removal of this symptom more than shaving the head, and therefore I always order it, without applying a plaister, but only a cap thick enough to supply the loss of the hair, or at least to keep the head warm. By this means the brain is greatly cool'd and refresh'd, so as by degrees to be able to overcome the heat occasioning the phrensy.

And in a
coma.

17. What hath been said of the phrensy is also applicable to the *coma* succeeding this fever, in which the febrile matter, as it happens in that disorder, is translated to the head, whence, except the whiteness of the tongue, no signs of a fever appear, so that the patient seems perfectly free therefrom. In this disorder, therefore, as well as in the former, purgatives, sudorifics, blisters, and the like remedies, are not only unsuccessfully used, but do much hurt: for such evacuations oftener kill than cure here. Having, therefore, used the general evacuations of bleeding and purging, the cure of this disorder, tho' it may terrify the attendants, is to be trusted to nature and time. For tho' the patient should be afflicted with a *stupor* for some days, he will, nevertheless, at length recover his health, provided he be not constantly kept in bed, but is suffered to rise in the day-time, and lie down on the bed, or couch, with his clothes on. In the mean time, however, it is proper to shave the head, and, towards the declension of the distemper, to give three or four spoonfuls of canary twice a-day: but I have treated of this disorder at large in another place (x).

18. The physician must not be discouraged by the fever from making the above-specified evacuations, tho', upon feeling the pulse, he should perceive a starting,

(w) By this means there will be a free circulation carried on by the branches of the external carotid artery, whence a violent attack from this symptom will be prevented.

(x) See *sect. v. chap. ii. pag. 204.*

ing, and a convulsive motion of the body, because both bleeding and repeated purging are absolutely required, and do service in some nervous diseases. To prove this, I shall relate what I have experienced in a certain kind of convulsion, which is usually call'd *St Vitus's* dance, of which I have cur'd five persons by bleeding and purging at due intervals. And since this disorder opportunely falls in my way, and manifestly confirms the truth of what I have asserted, I will say something concerning it.

19. This disorder is a kind of convulsion, which chiefly attacks children of both sexes, from ten to fourteen years of age. It first shews itself by a certain lameness, or rather unsteadiness of one leg, which the patient draws after him like an idiot, and afterwards affects the hand of the same side, which, being brought to the breast, or any other part, cannot be held in the same posture a moment, but is distorted, or snatch'd by a kind of convulsion into a different posture and place, notwithstanding all his efforts to the contrary. If a glass of liquor be put into his hand to drink, he uses a thousand odd gestures before he can get it to his mouth; for not being able to carry it in a strait line thereto, because his hand is drawn different ways by the convulsion, as soon as it has happily reached his lips, he throws it suddenly into his mouth, and drinks it very hastily, as if he only meant to divert the spectators. As this disorder appears to me to proceed from some humour thrown upon the nerves, which, by its irritation, occasions such preternatural motions, I conceive that the curative indications are to be directed (1.) to lessen those humours by bleeding and purging, and (2.) to strengthen the nervous system. To answer these ends, I use the following method. First, I order seven ounces of blood to be taken away from the arm, or such a quantity, whether more or less, as best suits the age of the patient: next day I give half, or a little more, of my purging potion (y), according to his age, or his being easier or harder to be purged, and in the evening the following draught.

St Vitus's
dance de-
scribed.

Its cause
and cure.

Take of black-cherry water, an ounce; compound piony water, three drams; Venice treacle, a scruple; li-
quid draught

A com-
posing
draught

quid laudanum, eight drops: mix them together for a draught.

20. I order the purge to be repeated thrice, with the interposition of a day between each time of taking it, and the opiate to be given always in the evening after the operation. Afterwards I prescribe bleeding and purging, as before. And thus I bleed and purge alternately, till the patient has been blooded three or four times, and purg'd after every bleeding, as often as the strength will admit: for it is to be carefully observed, that there must be a sufficient space allow'd between every evacuation, that the patient may be no ways injur'd by them. On the intermediate days I prescribe the following remedies.

**A stom-
achic elec-
tuary.**

Take of the conserves of Roman wormwood, and orange-peel, each an ounce; conserve of rosemary, half an ounce; Venice treacle, and candied nutmeg, each three drams; candied ginger, a dram; syrup of citron juice enough to make them into an electuary; of which the quantity of a nutmeg is to be taken in the morning, and at five in the afternoon, drinking after each dose five spoonfuls of the following infusion.

**A cephalic
infusion.**

Take of the roots of piony, elecampane, master wort, and angelica, each an ounce; the leaves of rue, sage, betony, germander, white hore-bound, and the tops of the lesser centory, each an handful; juniper berries, six drams; the peel of two oranges: slice and infuse them without heat in six pints of canary, and strain it off as it is used.

**A cephalic
julep.**

Take rue water, four ounces; compound piony and compound briony water, each an ounce; syrup of piony, six drams: mix them for a julep, of which let four spoonfuls be taken every night going to bed, with eight drops of spirit of hartshorn. Apply a plaister of gum caranna, spread on leather, to the soles of the feet.

21. According as the recovery advances, the foot and hand grow more steady, so that the patient can bring the glass in a straiter line to his mouth, which certainly shews how much better he is. But tho', to finish the cure, I do not advise bleeding more than
three

three or four times at most, yet purgative and alterative medicines are to be used till the patient is quite well. And, because such as have once had this disease are very subject to a relapse, it is proper to bleed and purge them for some days about the same season the next year, or a little earlier than it first began. And I can hardly help thinking but the epilepsy in grown persons will yield to the same method, provided the remedies prescribed be properly adapted to the age of the several patients; tho', having seldom met with this distemper, I have not yet made trial of it (z).—But this by way of digression.—

22. It

(z) Few writers mention this distemper, nor is it common: for my own part I have never met with an instance of it. Dr *Shaw*, in his practice of physic, vol. 1. p. 12. takes notice of it, and esteems it a convulsive disorder, and exhibits the method of cure as such.

Dr *Pitcairne* informed Dr *Mead* that he remembered to have cured two young women, whose fits followed the change of the moon; and that they were of that kind of epileptic fits, which are commonly called *St Vitus's dance*. Their gestures were very odd and uncertain, and somewhat like dancing: and they were deprived of speech during the paroxysm. In fine, other physicians had tried in vain to cure these disorders by *Sydenham's* method, for want of attending to their monthly periodical returns. And elsewhere the doctor observes that *St Vitus's dance* is generally called a convulsive disorder; but he looks upon it to be rather paralytic, and to take its rise from a relaxation of the muscles, which being unable to perform their functions in moving the limbs, shake them irregularly by jerks. And it is for the most part but a slight evil, and commonly teizes weak habits of body, girls more frequently than boys, and seldom adults; wherefore I never found it difficult to be cured by the cold bath, and chalybeate medicines. *Influence of the sun and moon upon human bodies, translated by Stack.*

Dr *Cheyne* observes that it very often arises out of an epilepsy, especially in young people, when the original distemper is overcome, and a greater degree of strength is obtained, tho' sometimes it is only a prelude to that severe distemper, and may itself sometimes be an original disease. *English malady* p. 244.

In his *essay on the gout*, p. 113. he further remarks, that it is a case of *relaxed nerves*, which happening tho' but seldom, yet, has the most melancholy appearance: And is not as yet, for ought I know, (he adds) brought to so easy, and so certain a method of cure, as is here laid down. But by treating it after the following manner, I never failed of a standing cure, in all those that came under my care, as some now living can witness: The party being young and otherwise healthy; else the proper method for the cure of a *cachexy* was premised. To answer the first intention of the general cure, I order'd a vomit (generally I combined either the *emetic wine* with an infusion
of

22. It sometimes happens in women subject to hysteric complaints, when the cure hath been attempted by the evacuations above-specified, that the fever continues even after bleeding and repeated purging. And in this case its continuance is manifestly owing to the commotion of the spirits, occasioned by the evacuations; and, consequently, if there be no signs of a peripneumony or inflammation about the vital parts, the curative indications are only to be levell'd at quieting the tumultuary motion of the spirits: for which purpose a sufficiently powerful opiate must be given every night, and hysteric medicines taken twice or thrice a day. Of this kind are pills made of *galbanum*, *asa fetida*, *castor*, and similar ingredients, and julaps of the same nature, of which I have set down some forms in my treatise on hysteric diseases. Furthermore, to recruit the strength, and suppress the vapours, it is necessary to allow such food, both of the solid and liquid kind, as is most palatable.

23. We have already observed, that this fever in the preceding, but especially in the current year, encreas'd every day towards night, when a fit came on like that of an intermittent. The physicians, therefore, who had learnt from experience, that all such fevers as did in the least intermit, and those frequently which did not, throughout the course of years, from 1677 to the beginning of the year 1685, certainly yielded to the *peruvian bark*, treated this fever with the same medicine. But, however rational this procedure was, it nevertheless did not ordinarily succeed so well as in the foregoing years. For having made the strictest enquiry I could into this matter, I found, that tho' the bark was given in great plenty, yet it so seldom cured the

The bark
ineffectual
in this fe-
ver.

dis-
of the *Ipecacuanha*, or the *tartar emetic* with the powder of the *root*, wherein the latter adds certainty and expedition; the former force and strength to the operation) to be repeated regularly on the same day of the week, for a considerable time, till the distemper began to decline (and then I lengthened its intervals) together with an *anticachectic diet*, already explained. To answer the second intention, I prescribed for a month, or six weeks, on all the intermediate days, a large dose of *æthiops mineral*, with bath waters to wash it down. And lastly, after this course finished, to answer the third intention, I gave an electuary of the *bark*, *orange peel*, powder of *acorns*, and *crocus martis astringens*, to brace the nerves inwardly; and ordered cold bathing every other day, for producing the same effect outwardly; and the cure seldom exceeded three months.

distemper, that I should rather ascribe the patient's recovery to some happy termination of it, than to the efficacy of the medicine: so entirely it seem'd to have lost the effectually curative virtue it was possess'd of in the years above-specified, at least, in respect of the fever under consideration, which resembles a quotidian. But in a genuine tertian, or an intermittent that comes every other day, the bark does as much good now as it ever did. Hence it clearly follows, that this fever totally differed from the fevers of the preceding constitution, inasmuch as the bark avails not at all now, and that it is likewise increased by wine, cordials, and other heating things; all which agreed well-enough with the use of the bark, and the fever itself.

24. It is further to be noted, that this fever throughout the summer, especially of the present year, wherein it prevail'd, did often shew itself, not so much by the distinguishing signs of a fever, as heat and restlessness, but by gripings, sometimes with, and sometimes without a looseness; whilst, notwithstanding the fever of this season lurk'd under this disguise, in which the inflammatory exhalations of the blood were not driven as ordinarily to the habit of the body, but thrown off inwardly by the mesenteric arteries upon the *viscera* of the lower belly, or intestines, and sometimes upon the stomach, by the ramifications of the celiac arteries, which exhalations commonly occasion vomiting, especially soon after drinking, or eating. But tho' this fever lies concealed under the kind and form of the symptoms above enumerated, it must be treated by the general method we delivered above, in the same manner as if it had appeared in its own shape, and that with respect both to bleeding and repeated purging: only it must be observed, that when the fever affects the stomach so much as to prevent its retaining a draught, the greater *pil. cochia* must be substituted instead of a lenitive potion, two scruples of which always makes its way through the bowels: but the pills must be taken at four in the morning, so that the patient may sleep after them, and at night an opiate exhibited in a large dose, *viz.* a grain and half of solid *London* laudanum, made into two pills, with as much mastich, or eighteen, or twenty drops of liquid laudanum, in an ounce of small cinnamon water, or any other generous vehicle. The

This fever often shews itself by gripings or vomiting.

stomach being by this means strengthened, and not irritated by the smallness of the quantity, will be less apt to throw it up. But if the purging draught and diacodium can be retained in the stomach, they are to be preferred to the above-mentioned pills and the laudanum, because they produce their effect without heating the body so much as the pills.

25. And now having mentioned the gripes, I must admonish my readers of the great danger which I have frequently found attend the prescribing mineral waters in any kind of gripes, looseness, or vomiting, or any other disorder suspected to proceed from a fever. For in a distemper of so subtile and spirituous a nature as a fever is, mineral waters invert the order of nature to that degree in every particular, that, instead of the ordinary attendants of a fever, they occasion quite irregular symptoms, and in the mean time contribute not in the least towards the cure of the fever, as I have learnt from a long course of experience.

Mineral waters bad in the gripes attended with a fever.

26. It must, however, be carefully noted, as it may be a means of snatching abundance of persons from imminent death, that, notwithstanding what hath been already delivered, when the gripes degenerate into a confirm'd dysentery (which, besides the gripes, is attended with a discharge of a slimy matter streak'd with blood downwards) it is apparently very dangerous to treat the disease by that tedious method, which consists (1.) in evacuating the humours, and (2.) in smoothing their acrimony; not to mention the internal use of astringent medicines of various kinds and forms, and the injection of astringent and healing glysters between whiles; having learnt from experience that a dysentery is most expeditiously and certainly cured by checking the flux immediately by *laudanum*. For so violent is this disease, that if the purging be continued when it is confirmed, it is much to be feared it may be increased thereby, and by its wonderful ferment last longer, whatever methods are afterwards us'd, or, perhaps, prove fatal.

To be treated with laudanum, if they degenerate into a dysentery.

27. For this reason, as soon as I am call'd to a person in this distemper, I give twenty drops of *liquid laudanum* in *plague-water*, *aqua mirabilis*, or the like vehicle, and order the dose to be repeated twice in twenty four hours; or oftner, if, being given in this quantity

tity and manner, it suffices not to ease the gripes, and check the bloody discharges downwards. But when these grow thicker, which is the first sign of the approaching recovery, and the symptoms are overcome, I reckon it safest for the patient to persist in the use of the above-mentioned medicine morning and night for some days, lessening the number of drops every day, till there is no more occasion for them. It must also be carefully observed, that I order the patient to lie longer in bed after taking the opiate, because an erect posture soon disturbs the head, unless sleep be indulged long enough after it.

28. With respect to diet, if the patient hath been used to wine, I allow him canary well diluted with water, in which a crust of bread hath been boiled, which I order to be kept in readiness for that purpose, cold in a proper vessel. The *white decoction* made with burnt hartshorn, boil'd in spring water, drank plentifully, is also beneficial in this case. Barley-gruel, or chicken-broth, a poach'd egg, or any thing else of easy digestion, may serve for diet in the beginning of the disease. But, afterwards, we may rise by degrees to stronger liquors, and a more copious and solid diet, lest too strict an abstinence should cause a relapse, or some other symptoms, the effects of inanition. It must, however, be noted here, that tho' *laudanum* alone overcame the dysentery of the present constitution, yet in those years wherein this disease is epidemic, and prevails more than the rest, it should seem proper to use those evacuations, which I have already set down in treating of the dysentery (1).

29. I proceed now to mention another case, where a cure can no more be immediately made by that method which suits the fever whence it proceeds, than in the confirm'd dysentery just specified. Thus, for instance, the patient is sometimes seiz'd with a chillness and shivering, and fits of heat and cold succeeding by turns, which certainly manifest an approaching fever, violent gripings come on suddenly, occasioned by the speedy translation of the febrile matter to the bowels, and, instead of being blooded and purged, according to our former directions, as he ought to be, he hath recourse to hot medicines, both internals, and externals, in order to expel the wind, whence he conjectures

The regimen in this case.

An iliac passion from hot medicines in the beginning of a fever.

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(1) See sect. iv. chap. 3. pag. 151.

the disorder proceeds; till at length the pain increases, and being by its long continuance deeply fixed in the bowels, begins to cause an inversion of their peristaltic motion (whereby, according to the law of nature, every thing should be protruded downwards) and a great inclination to vomiting; the disease now terminating in the iliac passion. In this case, I say, the physician can pursue the method of cure, which the fever, the primary cause of this symptom requires, no further than to order a single bleeding in the arm; inasmuch as all purgatives, how often soever repeated, soon become emetic, and by this means increase the inverted motion of the bowels; neither the strongest cathartics, nor the least part of them, being able to force their way thro' the intestines, and procure a stool.

How to be treated.

30. Here, therefore, I conceive it most proper to bleed first in the arm, and an hour or two afterwards to throw up a strong purging glyster; and I know of none so strong and effectual as the smoak of tobacco, forced up thro' a large bladder into the bowels by an inverted pipe, which may be repeated after a short interval, if the former, by giving a stool, does not open a passage downwards. But if the disorder yields not to this remedy, 'tis necessary to give a stronger purgative, tho' the making way by these means be attended with extreme difficulty.

Strong purging pills.

Take of the pills of two principal ingredients, thirty five grains; sweet mercury, a scruple; balsam of Peru, enough to make the whole into four pills; to be taken in a spoonful of syrup of violets, drinking nothing after them for fear of their coming up.

If these pills be thrown up, give twenty-five drops of *liquid laudanum* in half an ounce of *strong cinnamon water* immediately, and repeat the dose in a few hours; but as soon as the vomiting and pain of the bowels are abated by this remedy, give the above-mentioned purge again, for it will be kept down by the *laudanum* now, and at length finish its operation. If the vomiting and pain, however, should return as soon as the effect of the opiate is worn off, and the cathartic lodge in the body; then, laying aside all hopes of opening a passage this way, we must return to the use of the opiate before

fore

fore described, and repeat it every fourth or sixth hour, till the bowels be quite free from pain, and their natural motion downwards of course restor'd, when the cathartic, which had hitherto been stopt in the body by the opposite motion of the intestines, will operate in the usual manner; tho' the repeated use of opiates should seem to have a contrary effect. An instance of this I met with very lately in a gentleman afflicted with a violent iliac passion, which was afterwards succeeded by *aphthæ*, occasioned by an over-long retention of the morbid humours, and rough purgatives in the habit; but they were readily enough cured by the *peruvian* bark, and the frequent use of the following gargarism.

Take of verjuice, half a pint; syrup of rasp-berries, an ounce; and make a gargarism. A cooling gargarism.

31. But when these passages have recover'd their ordinary natural openness, purgatives may be omitted for some days, till the disturbance lately raised in the bowels be entirely quieted, which space of time may be advantageously enough allow'd for diluting, cooling, and smoothing the sharp humours; which being done, if the least signs of a fever still remain, purgatives must be exhibited every other day, as above directed.—And let this suffice for the cure of this disorder (*m*).

32. If a child be seized with this fever, two leeches must be applied behind each ear, and a blister between the shoulders, and it must be purged with an infusion of rhubarb in beer. And if the fever seems to intermit after purging, give the julap made with the *peruvian* bark, above set down (*n*). Children, how to be managed in this fever.

33. It is further to be noted, that tho' children are as subject to this kind of fever, as grown persons, and consequently ought to be cured by the same method; yet less blood must be taken away according to their age, to which purging likewise ought to be adapted, and perhaps need not be so often used: the distempers of children and young persons frequently yielding to the first or second purge. Nevertheless, it should be well consider'd whether the fever which is treated in this manner does certainly belong to this constitution, or is of a different kind; which ought likewise to be

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attend-

(*m*) See p. 46, note (*d*.) (*n*) See pag. 282. par. 29.

A fever from dentition cur'd by spirit of hartshorn.

attended to with the same exactness in all constitutions of years. For it is commonly known that children are often seized with fevers from dentition, which are not easily distinguished from those of another kind. And, for my own part, I have been long dissatisfied with respect to the cure of these fevers; nor could I be persuaded, till of late years, that any of those who were committed to my care, were recovered so much by art as by accident, till having been often informed of the success of a medicine not very famous, but rather little esteem'd for being in common use, I likewise order'd it, and found it succeeded better than any I had ever experienced before. The medicine I speak of is three or four drops of *spirit of hartshorn*, according to the age of the child, given in a spoonful or two of *black-cherry water*, or any proper julap, every four hours, to a fifth or sixth time (o).

A hectic in children cur'd by an infusion of rhubarb in small beer.

34. Children are subject to another very troublesome disorder, which differs much from the fevers of various constitutions of years, and from that last-mentioned: It is a kind of hectic, which holds them a long time, and they languish with little heat, a loss of appetite, and a wasting of the whole body. In this case I have recourse to the following plain method. I order two drams of good *rhubarb*, slic'd thin, to be infused, in a glass bottle well-cork'd, in a quart of small-beer,

or

(o) The symptoms accompanying dentition should seem to proceed from the tension, puncture, and laceration of the nervous membranes of the gums, because upon dividing them with an instrument to make way for the teeth, they soon cease: Abundance of children die of this disorder.

Spirit of hartshorn, tho' a good medicine in convulsions from dentition, will not always answer the end, as they may proceed from various causes and consequently require different remedies; and for the same reason it will not always remove the fever. For evacuations are necessary in case of repletion, gentle laxatives in case of costiveness, which often occasions convulsions, and in a looseness, astringents by the mouth and glysterwise having first given a mild purgative of rhubarb, with a drop or two of any carminative oil: testaceous powders are likewise good here.

Neither are the gums in the mean time to be neglected, but if swell'd, inflamed, thin and whitish on the upper part to be fomented often with an emollient fomentation, and anointed with a liniment made of sperma ceti, syrup of white poppies, oil of sweet almonds, and a little nitre; and these not relieving, a passage must be made for the teeth to come out, by cutting the gums with a proper instrument. A warm regimen, and heating medicines are prejudicial.

or any other liquor which the child uses for common drink, to be drank in the same manner both at meals and at other times. And this being finish'd, I order another quart to be pour'd on the same rhubarb, and this being also drank, I add a third quart of liquor to it, after which the rhubarb loses its virtue, and the child generally gets well. But lest the first infusion should have too much of the purgative quality of the rhubarb, and operate too strongly, it is better, after having drank half the liquor, immediately to add another pint to the remainder; but no more fresh beer must be afterwards added, till the whole quantity be used (*p*).

35. But to return to the fever under consideration, viz. that of the present constitution: it must be carefully observed in this kind of fever, in the same manner as in the rheumatism, and several other distempers, only curable by evacuations, that if we obstinately persist in the use of the above-mentioned evacuations, till the symptoms go quite off, the disease will often prove fatal. For it is not uncommon to find some slight symptoms remain a-while, even after the disorder vanishes, which, notwithstanding, do not endanger a relapse, inasmuch as they go off by degrees spontaneously, as the patient recovers. In effect, these symptoms are frequently nothing more than the genuine product of the repeated evacuations, by which the physician endeavoured to cure the disease, and partly proceeding from the emptiness occasioned by the patient's abstaining from his common food and liquors: all which, when they affect such subjects as are much debilitated, and in a manner worn out with distempers, give rise to vapours, as in women, and manifestly from the same

Evacuati-
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cause,

(*p*) In this disorder it should seem proper to take away blood in a small quantity, and administer testaceous powders, along with salt of wormwood and nitre, in a small dose. The diet should be smooth, nourishing, easy of digestion, and moderately cooling: riding on horseback every day, if the weather will permit, and warm bathing, used between whiles, are good assistants in the cure. The infusion of rhubarb is, however, no contemptible medicine, but may not perhaps be sufficient to answer the purpose alone: it may be used occasionally during the course here prescrib'd.

The rhubarb infusion may be merced by adding a few coriander seeds bruised, and raisins or liquorice root to sweeten it.

cause, namely the weakness and low state of the animal spirits. For this reason, therefore, after using such evacuations as are sufficient to remove the disease, a judicious physician ought to forbear the unreasonable use thereof, and wait a-while to see what time will contribute to this end, which frequently proves the best and most successful physician in conquering these slight symptoms; and I have, indeed, often known them go off in the declension of such a disease, without any thing more than an opiate, taken two or three nights running (q).

The author's method either cures this fever, or brings it to intermit.

36. The method just commended is the best I ever tried in curing this fever; and if it fails of effectually removing it, at least brings it to intermit, and then it always yields to the bark. But as purging, as it is here directed, in order to cure this fever, may perhaps seem detrimental to some persons, I assert, from experience, that nothing cools so much and so surely, as purging after bleeding, which should be used first in all cases (r). For tho' a purge, whilst it operates, may for the present, raise a greater commotion in the blood and juices than there was before, and of course increase the fever, yet that mischief will be much over-balanced by the immediately subsequent benefit. For experience shews, that purging after bleeding, checks a fever sooner and better than any other remedy whatsoever, inasmuch as it carries off the foul humours whence the fever originally proceeded, which, supposing them not to have been vitiated before, are at length inflam'd, concocted, and thickened by the heat of the fever, and so contribute to render it more lasting; and likewise, as it makes way for an opiate, which operates with more speed and safety, than if the morbid humours, which might otherwise lessen its virtue, had not been expelled by purging.

Sweating here less certain and more tedious, and not void of danger.

37. Whereas, on the contrary, the method which consists in carrying off the febrile matter thro' the pores of the skin, is not only less certain, but more troublesome and tedious, as prolonging the disease several weeks, and bringing the patient's life into imminent danger; and, supposing he at length happens to escape death,

(q) Dr Barker highly applauds our author's caution concerning evacuations deliver'd in this paragraph, and concludes with heartily wishing it were engrav'd upon every physician's mind.

(r) See pag. 21. par. 14.

death, reduces him to the mortification of taking a multitude of medicines, during the long continuance of the fever, to remove those symptoms which proceed from ill management, by attempting to cure it by an extremely hot regimen and heating medicines, which of its own nature requires the coolest of both kinds. And thus, while men of unsound judgment tie themselves up to follow rules of art, as they are, falsely, term'd, despising the contradictory testimony of their senses, and perplexing the cure by their hurry and apprehension, they change a disease, which of itself goes off in a little time and easily yields, into a lasting and difficult disorder.

38. For these reasons, therefore, I hope I may as-
 fert upon good grounds that the method of cure above
 delivered, which consists in bleeding and purging, is
 the most effectual one to conquer most kinds of fevers.
 Sweating, is indeed, properly speaking, nature's me-
 thod of expelling the febrile matter, and best adapted
 to the end, whenever nature unassisted first digests the
 morbid matter, and, after it is sufficiently concocted,
 carries it off gently thro' the pores; which successful
 manner of curing fevers by nature, having been often
 observed by practical physicians, the theorist thence
 took occasion to make this rule, *that all fevers may, and
 ought to be cured only by sweating (s).*

The me-
 thod above
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39. But admitting this conclusion, it is manifest that
 art, how nearly soever it may seem to imitate nature,
 cannot always certainly cure fevers by sweat. For (1.)
 art is unacquainted with the manner of duly preparing
 the morbid matter for expulsion; and tho' this were
 no secret, yet there are no certain signs, indicating its
 due preparation; whence the fittest time of raising a
 sweat must needs likewise be unknown. And sure none
 but an obstinate person will deny it to be highly dan-
 gerous

Difficulty
 of curing
 fevers by
 sweat.

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(s) *Van Helmont*, an arrant enthusiast in physick, confidently maintain'd this assertion, and it may be our author glances at him and his wild theory in this place; be that as it will, the doctrine is pregnant with mighty evils; for all fevers cannot be treated undistinctly in this manner, without great danger; not inflammatory ones certainly, as this would be adding oil to the flame; nor colloquative ones, for in these the patients melt too fast already; nor slow ones, lest nature already greatly debilitated should sink under an evacuation, which in this state could be ill supported.

gerous to excite sweat inconsiderately, before the due concoction of the febrile matter, as the translating the unconcocted matter to the brain must increase the distemper. Besides, as I have elsewhere observed, the judicious aphorism of *Hippocrates*, viz. “*that concocted*” “*and not crude matters are to be evacuated,*” seems to relate more to sweating, procur’d by art, than to purging. For a man must be but little conversant in the practice of physic, not to know what numbers of persons are injur’d every day by old women and unskilful pretenders to medicine, by this preposterous use of sudorifics; it being customary with them, when a person complains of chilness and a pain of the head and bones, which are the general fore-runners of a fever, to put him to bed immediately, and use their utmost endeavours to promote sweat. But this ill-tim’d attempt is so far from preventing the fever, which might perhaps have gone off spontaneously, or upon taking away a little blood, that, contrariwise, it is much increased thereby, and becomes a lasting and inveterate disease.

40. (2.) It is further to be observed, that as those sweats which appear spontaneously in the beginning of the fever are entirely symptomatic, and not at all critical, so those, likewise, which are forced out at this time by sudorifics, do generally forward the cure no more than the former, which avail nothing to this purpose. (3.) Again, as the proper time of promoting sweat is not known, so neither can we tell how long we should persist in this way; for if the sweat be continued beyond the due time, that is, longer than is requisite to carry off all the morbid matter, the waste of those fluid particles which should serve to dilute and cool the blood, will be a means of prolonging and increasing the fever. Hence, therefore, the precariousness of this method appears; whereas, on the contrary, the physician hath it in his power to regulate the other method, which consists in expelling the febrile matter by bleeding and purging, as he shall judge most convenient. (4.) Furthermore, this method deserves the preference for this reason, namely because it will do no mischief, tho’ it should fail of curing; whereas sudorifics are pernicious, unless they complete the cure: for the warmth of the body, when a person hath been kept in bed some time contrary to his usual custom,

not

not to mention cordials, which are always administered in this method of cure, disturbs the animal oeconomy, and causes convulsive motions of the limbs, and other irregular symptoms, which cannot be described, because they do not come under the history of the disease, as is common in several symptoms in all diseases, but proceed originally from the tumult and disorder super-induced, which frequently oppresses nature when the distemper is treated according to this method: all which are ordinarily ascrib'd to I know not what malignity.

41. The invention of the term, or opinion of malignity, has been far more destructive to mankind, than the invention of gun-powder. For, as those fevers are principally entitled malignant, which are found most inflammatory, hence physicians have recourse to certain cordials and alexipharmics, in order to expel the imaginary poison by the pores; for so it must be call'd, unless they had rather trifle about words, than propose in earnest what may be understood; and upon the same foundation they have adapted the warmest regimen and medicines to those diseases which chiefly require the reverse. This in reality appears manifestly enough in the cure of the *small-pox*, which is one of the most inflammatory diseases, as well as of other fevers; physicians having, perhaps, been led into this mistake by the *petechiæ*, purple spots, and the like symptoms, which in most subjects proceed originally from an inflammation super-induced upon the blood, already overheated by the fever: because they seldom come out spontaneously, except in the beginning of the *plague*, or that sort of confluent *small-pox*, attended with the highest inflammation. In this kind, indeed, the purple spots shew themselves in different parts of the body, intermix'd with the eruptions, at their coming out, and are accompanied at the same time with a flux of blood from the lungs, or urinary passages, and a cough. if the fever be so high as to put the blood into a very violent motion, and cause it to burst the vessels, and empty itself into the cavities of the body. And tho' the purple spots in this fever proceed not from such a considerable heat of the blood, as that which occasions such bleedings; yet they are produced by the same inflammation, with this difference only, that it is not so violent,

The mistaken notion of malignity, how fatal to mankind.

Prov'd from reason.

lent, and when not accompanied with such a flux of blood (the only symptom in the small pox which hitherto baffles the art of medicine) easily yield to a cooling regimen.

42. But if it be inferr'd, that there is some malignity in the case, not only from the purple spots, but also from finding the symptoms of the fever milder sometimes than should seem agreeable to its nature, whilst, notwithstanding, the patient is more debilitated than could be expected for the time; I answer, that all these symptoms only proceed from nature's being in a manner oppress'd and overcome by the first attack of the disease, so as not to be able to raise regular symptoms, adequate to the violence of the fever; all the appearances being quite irregular. For the animal œconomy being disorder'd, and in a manner destroy'd, the fever is thereby depress'd, which in the true natural order generally rises high. I remember to have met with a remarkable instance of this several years ago in a young man I then attended; for tho' he seem'd in a manner expiring, yet the outward parts felt so cool, that I could not persuade the attendants he had a fever, which could not disengage and shew itself clearly, because the vessels were so full as to obstruct the motion of the blood. However, I said, that they would soon find the fever rise high enough upon bleeding him. Accordingly, after taking away a large quantity of blood, as violent a fever appear'd as I ever met with, and did not go off till bleeding had been used three or four times (*t*). And this may suffice, with respect to these particulars.

And experience.

43. But if the reasons alledg'd be not sufficient to prove that I am certainly right in what I have asserted, yet, if experience teaches me that this fever does not readily yield to sweating, it is enough for my purpose, since it is not reasoning, but experience, that shews what sorts of fevers will yield to, and ought to be cur'd by sweat, and what kind by other evacuations. And, indeed, no judicious person, who is sufficiently acquainted with the nature of men and things, would hastily embrace

(*t*) In such a case, tho' the fever is on the point of increasing, yet most of the symptoms are deceitfully quiet; but the latent violence of the disease is manifest enough to a skilful physician, when he finds the strength of the patient more diminish'd than it ought to be for the time it has lasted.

embrace the sentiments of another person, tho' of the greatest authority in matters of meer speculation, not demonstrable by any certain experiment. Such a one should reflect, that there is so much difference and subtilty in arguments, that tho' a theory may be proposed by a person which shall appear to be founded upon such solid reasonings as to command the assent of all that are present, yet, soon after, another person of greater abilities, perhaps, coming to consider the hypothesis that seem'd so well establish'd, shews its inconsistencies, and clearly proves, by more cogent arguments, that it is no more than an imaginary notion, not the least trace of it being discoverable in nature, and substitutes a new and seemingly more probable and artful hypothesis in the room of it, which, notwithstanding, meets the same fate as the former, as soon as some third person, as much superior in parts to the second, as he was to the first, stands up to oppose it. And there will be no end of the dispute, till we come at length to him, who is arriv'd at the height of human knowledge: but the great difficulty of finding this person, and distinguishing him from the rest of mankind, will soon appear to any one, who is not so extravagantly vain, as to lay claim to the character himself. For, as it is no improbable supposition, that there is an almost infinite number of beings in those vast orbs plac'd above us in different parts of the firmament, possess'd of much more penetration than weak men; so it is not certainly known, whether the brain, which is the repository of thought, may not be so form'd by nature, that mankind cannot so clearly discover what is absolutely true, as what is best adapted to their nature. But we shall say no more to those physicians, who regulate their practice more by idle speculations, than experience founded on the solid testimony of the senses (u).

44. But

(u) Truth and nature being always the same, to be convinc'd of the vanity of systems, we need only attend to the vast number that have been invented, and the revolutions they have all undergone. Those which prevail at present, were either not invented fifty years ago, or at least were little, or not at all followed at that time; ; tho' it must be allow'd that nature was the same then, she is now: and doubtless these will meet the same fate with those which have gone before them. Upon a close enquiry, it will be found that most of our real knowledge of nature, is the result of observation and experience only; but as

The difference stated between the author's and the opposite method, shewing which is best.

44. But if it be objected here, that this fever frequently yields to a quite contrary method to that I have laid down; I answer, that the cure of a disease by a method which is attended with success only now and then in a few instances, differs extremely from that practical method, the efficacy whereof appears both from its recovering greater number, and all the practical phenomena happening in the cure. Thus, for instance, abundance of persons have recover'd of the small-pox, notwithstanding their having been treated by a hot regimen and heating medicines; and, on the contrary, several have recover'd by the opposite method. Now, by what means is this dispute to be decided; and which of the two methods is to be preferred? The surest way of judging in this case, I take to be this: if in pursuing the former method, I find, that the more I heat the patient, the more I increase the fever, restlessness, delirium, and other symptoms; and, on the contrary, if it should appear, upon being moderately cooled, that he is so much the calmer and freer from the fever, and other symptoms; and further, that by keeping the fleshy parts in such a degree of warmth as best suits with the rising and suppuration of the pustules, they grow larger and fuller, than by keeping him over-hot: Having, I say, thus stated both cases, I conceive it cannot be doubted which method merits the preference.

45. So likewise, if I find, in the fever under consideration, that the more the patient is heated, the more he is disposed not only to a frenzy, purple-spots, *petechiæ*, and the like symptoms; but further, that the fever by this procedure is attended with all sorts of irregular and violent symptoms: And, on the other hand, if

it to the manner of accounting for her operations, it hath ever chang'd with the times, and will continually do so; so that little stress is to be laid on it, so far as it is unsupported by fact, and the testimony of the senses.

We cannot help observing further here, that our great author is not always consistent with himself; otherwise he would not so frequently attempt to account for distempers and their symptoms, and make such notorious mistakes in theory, which he so justly, in this and many other passages of his works, censures and condemns. But his judicious practical observations are an over-balance for all his errors of this kind, few or none of which had any influence on his practice which has fixt his reputation upon too sure a foundation to be shaken by these occasional and trivial inadvertences.

it appears that another patient, by treating him according to the method here proposed, is quite free from these symptoms, reason shews that the latter method of practice is much the best; tho' both the subjects recover by such different treatment. But if more recover by this method than the other, the dispute is so much the more easily determined; which, however, I will not go about to decide, for fear of seeming too partial to my own opinions.

46. And these particulars shall suffice concerning this kind of fever; how long it will last I know not, and cannot tell but it may be some subtile and spirituous beginning of that depuratory fever, now abolished, which the dreadful plague succeeded. In reality, there are some phenomena which rather incline me to embrace this opinion, insomuch as not only intermittent fevers, especially quartans, still continue in a few places, but likewise some of those continued fevers do sometimes turn to intermittents, especially during this autumn; not to mention now the increase of this fever towards night, which a little resembles the fits of intermittents: And what further confirms me in this sentiment is, that persons in this disorder are much subject to vomiting. I do not, however, pretend to absolute certainty in this point, for want of knowing how the depuratory fever began, as I intimated before in the following terms: 'How long this continued fever had prevailed, I cannot say, my time having been hitherto sufficiently taken up in observing the general symptoms of fevers, and not having yet found that fevers might be distinguished with regard to the various constitutions of different years, or the different seasons of the same year (w).'

(w) See page 14, par. 4.

A DISSERTATION

*Concerning the putrid, or second Fever, hap-
pening in the Small-pox.*

1. **A**S my declining age, and the ill state of health I have long labour'd under, may possibly deprive me of the opportunity of publishing some recent observations I have made (tho' too late in my life) concerning the *second* fever happening in the *small-pox*, I trust the reader will not be displeas'd to find them added here, tho' they have not the least relation to the distemper we have just been treating of.

Wherein
the distinct
and con-
fluent
small-pox
differ.

2. I have long since shewn, in another place, where-
in the great difference consists between the distinct and
confluent small-pox; namely, that the former sort is so
void of danger, as to stand in need of very little assis-
tance from medicine, the patient recovering spontane-
ously by the help of nature, unless he happens to pro-
mote sweat in the beginning, by lying always in bed.
For, as I formerly observed, when a person sweats
freely in the distinct small-pox, he thinks himself in a
very promising way, as hoping the malignity of the
disease will be expelled by this means thro' the pores of
the skin, and, therefore, diligently promotes the sweat
by cordials and a hot regimen, as should seem proper;
and he pursues this method the more willingly, because
it appeared to relieve him in the beginning, and agrees
better likewise with the ill-grounded opinion of the at-
endants. But those particles being at length carried
off by sweat, which should have contributed to raise
the pustules, and swell the face, the consequence is,
that the face, which on the eighth day ought to swell,
and be inflam'd in the intermediate spaces, on the con-
trary appears sunk, and those spaces white, whilst the
pustules yet look red, and continue elevated even after
the death of the patient. The sweat, which flow'd
freely to this day, ceases spontaneously of a sudden,
and cannot be rais'd again by the warmest cordials;
and in the mean time the patient is seiz'd with a deli-
rium, great restlessness, sickness, and a frequency of
making urine in small quantities, and dies in a few
hours unexpectedly. Whereas he might have recover-
ed,

ed, and not been at all endangered, if he had trusted the cure to nature, without confining himself strictly to any regimen (a).

3. But in the confluent small-pox the case is very different: For tho' this kind does not terrify the attendants so much, and does not in the least endanger life, in the first days of the illness, unless there happens a flux of blood from the lungs, or urinary passages at this juncture, yet afterwards, in the declension of the disease, on those days which I formerly observed were most dangerous, the patient is brought to such an extremity on a sudden, that whether he will live or die appears equally uncertain and precarious.

4. In the number of those days, I reckon the *eleventh* day inclusive from the beginning of the illness, that is, in the mildest, but most common sort of the confluent small pox, the *fourteenth* in the middle kind, and the *seventeenth* in the worst species, which we frequently meet with; tho', it sometimes, but seldom happens, that the patient survives to the *twenty-first* day; the eruptions continuing so dry and hard to this time, and so deeply fixed in the flesh, especially in the face, as by no art to be brought to fall off (b). But the patient seems generally to be first endangered on the *eleventh* day, a high fever, attended with restlessness, and other symptoms, coming on then together, which fore-shew immediate death, and ordinarily prove destructive, unless medicine interposes to prevent it. But if the patient out-lives this day, the *fourteenth* and *seventeenth* are still to be apprehended; for a very vehement fit of restlessness comes on every day towards evening, between the *eleventh* and *seventeenth*, and there is great difficulty in saving the patient.

5. I have likewise shewn, that the greater or less impending danger, in this sort of small-pox, proceeds from hence; namely, that the distinct small-pox is accompanied with fewer *phlegmons*, or tumors with inflammation, of which kind all pustules are when they first appear, whence of course only a small quantity of *pus* is to be taken back into the blood by the circulation, when they begin to suppurate; so that we need not fear the fever's rising too high from this quarter, nature

(a) See pag. 108. par. 20.

(b) See pag. 370. par. 5.

nature being able to preserve the blood from the taint communicated thereto by so small a quantity of matter. Whereas, in the confluent kind, the greatest part of the body being covered with these phlegmons, which afterwards degenerate into abscesses, so much *pus* is transmitted from the veins into the blood on the abovementioned days, in which nature generally brings them to their height, or fit ripeness, and such a plenty of putrid *effluvia* insinuate themselves into the mass from the surface of the whole body, now in a manner universally suppurated, that the fever hereby occasioned oppresses nature entirely, and thus the patient dies at length, partly from the fever, and partly from the infection which hath tainted the blood (c).

Why a hot regimen and cordials are bad.

The method of cure.

Lying always in bed very prejudicial

6. Since then the safety of the patient depends so much on the paucity of the eruptions, and the danger, on the contrary, on the abundance of them, both reason and common sense intimate that a skilful physician ought not to force out the variolous matter in a violent manner, at the beginning of the disease, by a hot regimen and cordials, whence too great an assimilation of the morbid matter lodged in the blood is occasioned, and the whole substance of the body in a manner changed into supplies for the disease; but should rather use all his endeavours to check so excessive and subtle an inflammation. To answer this purpose, bleeding in the arm is to be first performed, if there be the least suspicion that the small-pox, on the point of coming out, will prove of the confluent kind, (1.) either from the patient's being in the prime of life, or (2.) the blood having been inflamed by strong liquors, or (3.) violent pain attacking some part of the body, or (4.) lastly, if the distemper be joined with vehement vomiting: And after bleeding a vomit will conduce to the same end. But as nothing heats the patient so much, and consequently promotes the too copious assimilation of the variolous matter to that degree as lying constantly in bed, I always enjoin him to sit up a-days till the *sixth* day from the beginning of the disease, and the *fourth* from the eruption, when all the pustules appear (d). After this time I keep him in bed till the disease goes off, but neither allow him more, or warmer cloaths,

(c) See pag. 373. par. 6, &c.

(d) See pag. 371. par. 12. pag. 382 par. 22. pag. 378 par. 28. pag. 399. par. 31.

cloaths, or suffer him to keep a larger fire in his room, than he was accustomed to, whilst in health. In the mean time I permit him to drink freely of small beer, and such other cooling liquors as he likes best.

7. But notwithstanding the most cooling regimen be used, the patient will often be seized with heats, a delirium and restlessness, for which reason I order an opiate to be taken every night earlier than ordinary; this distemper being generally attended with a kind of access, or increase of heat and restlessness towards evening. This is the best method of preventing the appearance of too many pustules (whence the most danger ensues, as I have shewn above) and likewise of promoting their filling after the eruption, as well as their due suppuration afterwards (e).

Why an opiate is to be given every night.

8. It is nevertheless to be regretted, inasmuch as the youthful part of mankind chiefly perish by this disease, that the patient, who before was in no great danger, is often seized on the *eleventh* day, or some one of those days which I have reckon'd the most dangerous in the different sorts of the confluent small-pox, with a high fever, very difficult respiration, and great restlessness, which, these and all other helps hitherto discovered by medicine not availing, suddenly put an end to his life, to the astonishment of his friends, who, till this fatal period, had hopes of his recovery. In this case the physician, having done all he could to prevent it, will do his best to conquer this sudden violent turn of the disease; in order to which let it be well considered, that this adventitious fever which happens on the *eleventh* day in the confluent small pox, is a quite different distemper from the small-pox and that fever which either precedes the eruption, or arises sometimes from the inflammation of the pustules, or *phlegmons* at the beginning. For, properly speaking, it is only a putrid fever proceeding from the transmission of putrid particles of the pustules, now in a state of suppuration, into the blood, which, being prejudicial to nature, at the same time infect the patient, and occasion a very bad fever (f).

What is to be done when the fever comes on, on the eleventh day.

It is a putrid fever.

O o

9. In

(e) See pag. 392 par. 35, & seq.

(f) The causes of this fever are clearly and scientifically delivered by Dr Hillary, in the 8th chapter of his essay on the small-pox, to which, therefore, we refer the reader for abundant information and satisfaction.

Copious
bleeding
excellent
here.

9. In this case, therefore, any prudent person will esteem those the only proper remedies, which will most effectually check this second fever, which I call putrid: And nothing does this better than plentifully bleeding, which clears the blood of the morbid particles that nourish the disease. Nor is this practice, in my opinion, in the least contra-indicated by the distemper in the present state of the eruptions, since, if the patient should die at this period, and be interr'd, yet the eruptions being hard and dry, could not strike in, nor grow at all less. And, in effect, we have nothing to do now with the small-pox, but with the putrid fever, which is a very different disease.

The suc-
cessfulness
of this
practice.

10. For these reasons I have had recourse to the following method with success, which I discovered since I published my last observations on the small-pox; neither do I know, or can think of any other that will so certainly relieve. When, therefore, the patient is threaten'd with immediate death from the uncommon violence of the symptoms without speedy help, whether it be on the *eleventh* day, or afterwards, I order ten or twelve ounces of blood to be immediately taken away from that arm, which hath the fewest eruptions, and in which, therefore, the vein may be the most commodiously opened; for tho' opiates, and sitting up a-days, may be sufficient in the beginning of the disease, without bleeding, to conquer the fit which comes mostly towards evening, yet on these days of the secondary fever plentiful bleeding alone can be safely depended on, this being the sole means of quieting the present tumult. An opiate is, therefore, to be given in a large dose, in the evening, as before, to which we have recourse now, as to an effectual refuge, and it is to be repeated from this time morning and night, and sometimes oftener, as there is occasion. For it must be carefully noted, that the symptoms in some persons are so very violent, that an opiate given even in a very large quantity cannot overcome, nor even check them in less than twelve hours; in which case it is indispensably necessary to repeat the opiate in the same dose every six or eight hours.

An opiate
to be given
in a large
dose.

11. But as it frequently happens in the declension of the distemper, partly from the nature thereof, and partly from the great virtue of the opiate, which the cir-
cum-

umstances manifestly required, that the patient be- comes so very costive, as to be in danger of suffocation, and that the fever likewise rises so high as to leave little hopes of recovery, we must suit the remedy to the present exigency. Accordingly, in this case, less danger will ensue from taking a gentle purge, than from the fever, much increased by the retention of the *faeces*. I have successfully ordered here an ounce and half of *lenitive electuary* to be dissolved in four ounces of some small distill'd water, for instance, *the distill'd water of succory, or milk-water*, and taken immediately; and tho' this draught may not operate speedily, on account of the usual costiveness in this disease, and also of the long continued use of opiates, yet being administer'd in the morning, it ordinarily gives a few motions before night; but if it should not, the opiate must be exhibited in the evening, and indeed earlier, notwithstanding the purge, if great restlessness, or sickness threaten danger, lest the patient for want of this assistance should perish, whilst we are waiting for the operation of the medicine. Nor will so mild a purge do the least mischief, tho' it should not work at all: So that if it does not answer the expected end the first day, repeat it the next, and the latter dose seconding the former, it will seldom fail the physician. But if it should seem to have procured a sufficient discharge for the present, and the patient grow better thereupon the second draught may be deferr'd to another time (g).

Costive-
ness at this
time to be
remedied
by a gentle
purge.

 May be
given with
the utmost
safety.

O o 2

12. In

(g) Dr *Huxbam* assures us, that nothing hath succeeded better with him for removing this fever, than repeated purgatives, with the addition of *calome!* occasionally, and interposing opiates between whiles. I have not only experienced this method, says he, in my own children, but in several other patients, with constant success, and in reality scarce any other remedy avails. See his *treatise de aere & morb. epid.* p. 37. *The philos. transact.* No 390. and Dr *Friend's epist. de purgant.* &c.

The intentions of cure, according to Dr *Hillary*, are; (1) to prevent the production and increase of these acrid cacochemical humors, as much as possible. (2.) To hinder the return of the purulent variolous matter from the pustules into the blood. (3.) To correct and change the morbid condition of the fluids and reduce them as near to their natural state as we can. (4.) To evacuate the redundant quantity of these morbid humours; and (5.) to remove the inflammation, whether general or topical; and to stop the great tendency of the animal juices to putrefaction. To answer these ends, he gives smooth, blunting, cooling liquids plentifully, recommends opening the pustules, uses

a cool-

Bleeding
and purg-
ing may be
repeated
alternately
as there is
occasion.

12. In this manner bleeding and purging may be repeated by intervals, as the fever and restlessness seem to require, till the patient is out of danger. But, with respect to purging, that the mentioning it may not prove much more detrimental than beneficial, let it be carefully remembered, that a purge is not to be exhibited till the declension of the disease, namely on the *thirteenth*, or some subsequent day, and not then, unless some blood hath been taken away upon the first appearance of the second fever (*b*).

Spitting of
blood, and
bloody urine
how to be
stopped.

13. But in order to complete the method of practice in this disease as far as I am able, I will willingly be at the trouble of communicating a few particulars concerning *spitting of blood*, and *bloody urine*, which happen in the small-pox. Both these hemorrhages, as I observed before, come on at the beginning of the disease, either before the pustules appear, or whilst they only shew themselves in some few places, and in the rest lie thick under the skin, and are of that sort, which would prove most confluent, if one of these symptoms did not cause the distemper to terminate fatally; whilst *purple-spots* appear in the mean time in some parts of the body, and threaten death. But tho' the purple-spots may be removed by duly cooling the blood, yet both *bloody-urine*, and a violent *flux of blood from the lungs*, ordinarily foreshew certain death: Nevertheless this
dreadful

a cooling glyster, in the first place, and then exhibits a cooling purge, and observes that a few spoonfuls of a grateful cordial may be given during the operation, to very good purpose, with soft cooling acescents: He likewise has recourse to bleeding, when necessary, and accurately determines the cases wherein it is to be used. And if the fever remits or intermits, instead of the bark, which he disapproves, thinks that a suitable purge or two, and a liberal use of *Elixir vitriol. Mynsichti*, with gentle cardiac bitters, may answer the end much better, with a good nutritious diet. See his *essay on the small-pox*, p. 105. & seq.

(*b*) Experience shews, that purging may be safely and advantageously used on the *ninth* or *eleventh* day, if the eruptions be then upon the turn, as it is vulgarly term'd, and evacuations be indicated: And bleeding need not be used first, unless some particular symptom requires it.

In every sort of this disease, says *Dr Mead*, it is proper to open the body on the decline, that is, on the ninth or tenth day from the eruption; because a putrid fever generally comes on about this time, while the pustules are drying; or upon the subsidence of the swelling of the inflamed skin, where there is no suppuration: which fever cannot be taken off with equal safety by any other means. But gentle cathartics alone are to be employ'd in this case.

dreadful difficulty may likewise be overcome, and life preserved. For as both these symptoms proceed from the vehement inflammation, and of course the exceeding thinness, or dissolved state of the blood, such medicines as cool and likewise thicken the blood, by their binding and incrassating quality, admirably check these bleedings. For this reason, after bleeding once plentifully, give an opiate.

Take of the distill'd water of red poppies, two ounces; liquid laudanum, fourteen drops; distill'd vinegar, three drams; diacodium, half an ounce; mix them together for a draught. Then let the following, or the like remedies, be used till the bleeding stops.

A composing draught.

Take of the troches of Lemnian earth, Armenian bole, each a dram; seal'd earth, blood-stone, dragon's-blood, and prepared red coral, each half a dram; mastich, gum arabic, each a scruple; make them into a fine powder, of which let half a dram be taken every three hours, in a spoonful of syrup of comfrey, drinking after it four or five spoonfuls of the following julap (i).

An astringent powder.

O o 3

Take

(i) The quantity of gum arabic here ordered is so very small and trifling, that it cannot be supposed to contribute in the least degree towards relieving either of these dreadful symptoms. Whenever, therefore, any stress is laid upon this medicine, several ounces of it ought to be taken in a day, along with large quantities of lemon juice, or of some mineral acid, for in this case there is no time to be lost.

As I could not any where more commodiously insert the following brief remarks on inoculation, not wholly my own, but partly collected from some of the best writers on the subject, and ranged under proper heads, the reader, I imagine, will not be displeas'd to meet with them in this place.

Inoculation defin'd.—By inoculation is meant the making little incisions, only skln-deep, in the arms or legs, and applying small pledgets of lint to them, moisten'd with variolous matter, and securing them by a bandage.

And this is an operation so easy, that almost every one can do it; whilst only the skilful and sagacious physician is equal to the rest of the undertaking. For to render it successful, there is further requir'd a power of discovering a fit body or disposing one judiciously to receive the most favourable kind of the small-pox by infusion; also a skill in preventing, or remedying all the ill accidents that may possibly happen in the course of the disease itself.

Advantages of it.—Experience having shewn that crude, all and vigorous bodies and such as have been accusom'd to

A styptic
julap.

Take of the distilled waters of plantain, and oak buds,
each three ounces; cinnamon water without spirit,
two

a free or inflammatory way of living, are generally worse handled by the small-pox, inoculation hath the advantage of singling out, or chusing the proper subjects for a peculiar manner of infection, to operate mildly upon, as well as to a power, by a conduct previous to that infection, to render them in a great measure such.

It generally produces a mild distinct kind; the contrary extremely seldom: and of course very rarely a secondary fever, which is so fatal to multitudes who have the small-pox in the natural way,

Dr *Jurin* has clearly and undeniably proved, that it does not carry off more than one in fifty; whereas, when it is taken in the common way it usually destroys one in six, according to the fairest and exactest computation. And, some assert, that for one that dies of it by inoculation, ten die of it by receiving the infection in the ordinary way.

The practice is now so well establish'd, and become so general, many physicians and surgeons inoculating their children, that the safety, expediency, and advantage of it, cannot with any colour of reason be called in question. In *London* the *Middlesex County Hospital* was founded for such poor persons as were seized with this distemper, and for such also as were *freely disposed to be inoculated*. Accordingly, great numbers of persons of both sexes and all ages have been inoculated there with the best success. And in the *Foundling Hospital* abundance of children have been inoculated no less successfully.

These, and innumerable other instances, that might be produced, of the safety and benefit of inoculation, must surely much more avail to countenance the practice of it, and render it still more universal, than all that may be urg'd against it can avail to the contrary; though the arguments alledged be ever so plausible and specious. With men of reason, temper, and candour, facts will certainly be allowed their due weight and force, and pour that conviction on the unprejudiced mind, which they are so irresistibly able to produce. In truth, they are of such a nature, that they will not bend to the passions and prejudices of mankind, but are ever too hard for all arguments, and triumph over all opposition from every imaginable quarter.

The best seasons for it.—Winter and spring are by most allowed to be the properest seasons for communicating the infection, and the *small pox* is generally found to be the mildest, and attended with the fewest bad symptoms at these times,

The properest subjects for it.—Those from five years of age up to forty, are the fittest; for people of declining years are bad subjects for this, or any violent distemper—Some judicious surgeons are of opinion, that sucking children are as proper subjects for inoculation as any; and assure us, that they have inoculated multitudes of such with the best success—Persons of a fallow icteric complexion, and that are often indispos'd, are not fit subjects for inoculation; as there is reason to apprehend that such have unsound viscera, which
must

two ounces; syrup of dried roses, an ounce; spirit of vitriol, enough to give it a moderate tartness; mix the whole for a julap.

O o 4

In

must naturally subject a patient to internal pustules, which, if not constantly fatal, must be commonly so. Those of fallow dark complexions, of what I conceive an atrabilious temperament, with rigid fibres, and a very coarse tone of voice are improper subjects; for from repeated instances it appears, that the last mentioned circumstance is one mark of a constitution dispos'd, to the severer degrees of this malady.—In general, the subjects for this operation should be chosen of a good habit of body, and free from any apparent disease

The method of preparation for it.—Different bodies necessarily require different degrees and modes of evacuation: some may be prepared most effectually by alterative medicines, and such gentle evacuants as are eminently so. Many will need no evacuation or preparation at all especially sucking children; and it is even possible, that a few who are determined to be inoculated, may, instead of physic actually want a better plight of body than they enjoy, to become proper subjects of it.—Thus, in a puny habit, after a gentle vomit or purge, a light infusion of the bark, with the addition of a small quantity of red wine taken for some time is highly proper, and proves very beneficial, and such may eat once a day sparingly of the lightest kinds of animal food.—In a plethoric habit, bleeding, vomiting, purging, and a low diet are adviseable.—In gross or robust habits, bleeding and purging, a course of æthiops mineral, or cinnabar, with a milk diet for 5 or 6 weeks, is the best preparation. Moderate exercise and early hours both for rising and going to bed, and a proper regulation of the non naturals, should be recommended to all subjects without distinction. Warm bathing, in dry rigid habits, though not recommended by any author on the subject, that I have read, must certainly be one good preparative; for this will cool, dilute, and relax, the natural consequence of which state of body is a gentle, kindly, small pox.

Very young subjects rarely require bleeding; grown persons often do, especially the sanguine, and it may be needful to repeat it if the symptoms of invasion run high.

If from the fallow complexion and habit of the patient, there is reason to suspect a cacochymy of the fluids, and the teguments be harsh and dry, give small doses of calomel three or four times within the term of preparation (that is a month or six weeks before inoculating) and purge it off with lenients.—To the sanguine and florid, whose blood seems sufficiently sweet or fluid, give only antiphlogistic purges:—but forbid both the use of any other but white meats, during the whole time of preparation, and of them likewise from the time of inoculating.—And, in reality, when there is no reason to apprehend that a strict vegetable and fluid diet would sink the natural strength and spirits too much it should be preferr'd and used all the time of preparation.

Children, as was said above, seldom need bleeding, but should generally take some good worm-purges beforehand, lest the

In the mean time the opiate above prescribed must be given every evening: Emulsions also made of the *four greater cold seeds*, and *white poppy seeds*, are very beneficial (k). But after the bleeding is stopp'd, the distem-

the distemper should be encreased, or perplex'd by the accession of a worm fever.—And they may likewise take a few papers of *Æthiops mineral* and cream of tartar; and should be kept from flesh the whole time of preparation.

Manner of inoculating.—Raile the skin of both arms in the division of the muscles, where issues are usually made, as thin as possible, by disengaging it from the deeper integuments, and running the point of a lancet through it: make a shallow orifice, not above the length of one fourth of an inch; but if it be a little longer, it matters not much: then apply two pledgets of lint, as big as small peas, that have imbibed the variolous matter, to the incisions, and secure them with a plaister and a suitable bandage. In twenty four hours the lint may be taken off, and the orifices dressed with the common plaister, and a fresh dressing applied once in a day or two, or oftener, according as they discharge; for if they run considerably it will be proper to dress them twice a day.

And they may be kept running after the patient is recovered, for a drain, as issues, if need be, as long as he pleases, with the help of a pea, a sticking plaister and bandage.

I am informed that some eminent practitioners who have inoculated great numbers, rather chuse to make the incisions in the legs, by which means abscesses of the *axillæ* are generally prevented, which often happen when the operation is performed on the arms, and prove very painful and troublesome to the patient.

The fittest time for procuring the *pus*, or variolous matter, is in its state of maturation. It signifies not from what kind of small-pox 'tis taken, but 'tis adviseable to take it from a young, and otherwise sound and healthy subject.

Treatment of the inoculated.—From the time the operation is performed, the patient should keep moderately warm, and live temperately.

As to the rest, as inoculation hardly ever fails giving a mild distinct sort of small pox, the temperate regimen only is generally necessary; but if any troublesome symptoms should arise in the course of the distemper, they require the same treatment as if the small pox had been taken in the natural way.

(k) Dr Hillary, in these hemorrhages, advises bleeding to such a quantity, as the age and strength of the patient will permit and the violence of the symptoms requires, and that it be repeated, if the pulse rise, as it often does, after the first bleeding. And we also know, *proceeds he*, that this violent heat, tenuity, and dissolution of the blood may be still more abated, by a prudent and plentiful use of the *mineral acids*, as *ol. Sp. vitr. ol. Sulph. p. camp. tart. vitriol, &c.* with incrassating restringents.——It will likewise be necessary to procure, if we can, a revulsion from those parts thro' which the blood is evacuated; if it passes off by urine or stool, besides the relief we may expect from bleeding, warm refreshing fomentations applied to

distemper is to be treated in all other respects throughout the course of the cure, according to the method above delivered in our discourse on the small-pox (l).

14. Before I conclude, let me add, that when I order *liquid laudanum*, I mean my own *laudanum*, the preparation of which I have already (m) communicated. And the *syrup of poppies*, or *diacodium*, I would have made in the following manner.

Take of the heads of the white poppy well-dried, fourteen ounces; let them infuse for twenty-four hours in a gallon of spring water; then boil them well, and press out the remainder strongly; to which add twenty-four ounces of sugar, and boil them together into a syrup (n). Syrup of
POPPIES.

I esteem these two preparations the best of their kind; especially the *diacodium*, an ounce of which will do more service than two of that which is made with green poppy heads (without pressing the liquor out so strongly) and a large quantity sometimes of the black heads of the wild poppy, which have little virtue. Accordingly, whenever I am not satisfied about the strength of any of these opiates, I usually order a grain and a half, or two grains of *solid LONDON laudanum*, dissolved in some proper distill'd water, in the room of them, by which means I avoid making any mistake, and hurting my patient.

A

the extremities, will cherish the heat, which in this case is mostly two languid, and by relaxing the vessels diminish the resistance, and solicit a large quantity of fluids to these parts.

See his essay on the small-pox, p. 133, 134, & 136.

(l) See sect. iii. chap. ii. p. 101,

(m) See p. 161. par. 14.

(n) See note (c) p. 294. at the end of this book.

A DISSERTATION

Concerning Bloody-Urine from a Stone in the Kidneys.

The author's reason for publishing this piece.

TH O' some may think me a little indiscreet in publishing an observation which I have experienced in myself alone, yet 'tis hop'd no equitable person will be displeas'd with me, who have suffer'd so long and so much from *bloody-urine*, from a stone in the kidneys, for being mov'd to compassionate those who labour under the same disease, and to communicate those remedies which have given me relief, tho' they may perhaps seem common, and not worthy of notice.

Fears he has a large stone in one kidney

2. In the year 1660, I had the longest and severest fit of the gout I ever had in my life, so that I was constrained for two months, in the summer season, to lie always in, or upon a soft bed, and towards the close of the fit I began to feel a dull heavy pain, especially in the left kidney, and sometimes, though very seldom, in the right. After the gout went off, the pain in the kidneys remained. and attack'd me at intervals, which, though it was not very sharp, made me apprehend the stone; for I had not yet had a single fit of the stone, which is attended with severe pain along the ureters towards the bladder, and violent vomiting. But tho' these signs of the stone in the kidney appear'd not hitherto, yet I had reason to believe I had a large stone in one of them, which being too big to pass into the ureters, occasioned the above-mentioned symptoms. And several years afterwards I found I was not mistaken; for having walk'd considerably, and for a long time in the winter season, in 1676, soon after the breaking of a severe frost, I made *bloody-urine* directly, and consequently did so whenever I walk'd much, or was carried in a coach over the stones, tho' the horses went slowly; but this symptom did not seize me when I travell'd in a coach in unpav'd roads, how long a journey soever I made.

3. The

3. The urine I voided on these occasions, though it looked very bad at the time of making, so as to resemble pure blood, yet soon after it became clear at the top, like natural urine, the blood falling to the bottom by itself in clots. To relieve this disorder, I had a large quantity of blood taken from my arm, and after taking some purges, had recourse to several sorts of cooling incaffating remedies, along with a proper regimen, and carefully forbore all acid, pungent, and attenuating liquors. But receiving no benefit from these, and many other remedies, which it would take up too much time to enumerate, and fearing to drive the stone forwards by steel-waters, as suspecting it was too large to be expell'd thereby, I at length quite despaired of relieving myself by this method, especially having found that some of my acquaintance had hastened their death by fruitlessly endeavouring to cure this complaint by such medicines; for which reason I resolved to desist from all further trials, unless by way of prevention; by avoiding all motion of the body as much as I could.

Voids bloody urine.

Uses several remedies ineffectually to relieve himself.

4. But happening afterwards to recollect the great commendations which some persons have bestowed on the seed of the ash tree, for its stone dissolving, or stone-breaking virtue, I imagined, that if the seed had so much virtue, the *manna* thereof might probably have more. For the *manna* which comes to us, according to Mr *Ray*, (a) and other earlier writers, is neither an aerial honey, nor any kind of heavenly dew, but rather a liquor ouzing from the leaves, branches, or trunk of the *Calabrian* ash-tree, of the truth of which Mr *Ray* was further satisfied, whilst he was in his travels in *Italy*, by a physician, who frequently gather'd *manna* from the branches and leaves of these trees, first closely covered with linnen clothes. Accordingly, to make the trial, I dissolved two ounces and a half of *manna* in a quart of *whey*, and drank it, and took a little lemon-juice between whiles, as well to make it operate more speedily, it being ordinarily a slow purgative, as to render it more agreeable to the stomach. It is hard to express the ease I perceived in the region of the kidneys from this medicine; for tho' the pain was not continual before, yet I felt a troublesome weight.

Induc'd to try *manna*.

His manner of taking it.

Greatly relieved by it.

En-

(a) See his catalogue of *English* Plants.

Seiz'd
with the
disorder a-
gain.

Hath re-
course to
manna a-
new, with
an opiate
at night.

Quits the
opiate.

Repeated
purging
brought on
some sym-
ptoms of
the gout.

Encouraged by this good success, I took this purgative every week on a set day, for some months, and found a manifest amendment after every purge, till at length I could bear the shaking of a coach when the horses went apace, and indeed continued free from this symptom till last spring, at the beginning of which it returned, occasioned by my having had the gout severely all the preceding winter, and my inability to motion, which made me indulge rest, and use less exercise than usual. And now I doubted whether I should have recourse to purging again, as finding that the mildest purge certainly occasioned a fit of the gout, because the whole substance of my body, in these latter years, had, in a manner, degenerated into nourishment for this distemper. But at length it came into my mind, that I might safely resume my former method of taking *manna* once a week, provided I took an opiate in the evening, after the operation, to quiet the tumult raised by the purgative. Accordingly, in the morning I drank two ounces and an half of *manna* dissolved in a quart of *wehey*, and at night took sixteen drops of *liquid laudanum* in small beer; and repeated the *manna* and *laudanum* in this manner twice a week, for three weeks running. But afterwards I took the *manna* only once a week, because it had discharged such plenty of foul humours, as to leave little fear of the gout. And my reason telling me, that if *manna* was possess'd of any stone-dissolving, or stone-breaking virtue, its efficacy on which I depend, must needs be lessened, in some measure, by so powerful an astringent as *laudanum* is, I thought it best to omit taking the opiate, as I only purged once a week.

5. I have continued this method for some months, always purging on the same day of the week, and would not, upon any account, be persuaded to quit it. But tho' the pain of my back abated, as formerly, upon taking the first purge, yet soon after repeated purging brought on some symptoms of the gout, which sometimes affected the limbs, and sometimes the bowels: but *laudanum* effectually check'd these motions of the distemper. This method, however, having hitherto been successful, I judg'd it proper to continue it, both to prevent the return of the bloody urine, and to carry off a part of the matter that forms the stone. And,

in the end, it answer'd my expectation, having never had this symptom since my first publication of this treatise, and therefore I left off the *manna* entirely. But cured his disorder.

6. With respect to purging, therefore, in the case of bloody urine; provided only *manna* be used according to the method above delivered, I must retract an assertion I formerly published in my treatise on the gout; namely, *That it is absolutely improper to purge gouty persons either at the beginning, declension, or in the intervals of the fits (b)*. For I did not then recollect that the fit which I feared might be occasioned by the purgative, might be prevented by giving an opiate at night. Nevertheless, if the gout only be attended to, all manner of evacuations are very pernicious therein, and therefore not to be used, unless the above-mentioned symptom requires them (c). The author retracts a former opinion of his concerning purging.

7. To

(b) ————— *Simon is my name :*
 Though plung'd by fortune's power in misery,
 'Tis not in fortune's pow'r to make me lye.
Dryden's Virgil, Æneis, Book ii. p. 490.

(c) See p. 474. par. 22. & seq.

I have known, says Dr Cheyne, some eminent physicians; that have had so little regard to Sydenham's opinion in this matter, that in the fit of the *gout* itself, at whatever time it happened, they never scrupled to drive it off both from themselves and others, by strong quick, and active purges, which they repeated every morning whilst the *fit* continued and at night quieted the tumults they excited, and expelled the *gouty* humours, introduced into the habit by them, with *cordial* and warm medicines, mixed with *opiates*. This method they continued till the pain was gone, and the *tumour* subsided. And to prevent its return, carry off all the remaining *goutish* humours, and to strengthen the habit, they persued gentle stomach purges, aromatic diluters, and warm alteratives, till a strong constitution was obtained: And most certain it is, that this method will cure any fit of the *gout*, how obstinate soever, and that in a few days. The reasons they gave for this procedure, were that by such a method, inflammatory *rheumatisms* (of the nature of which the *gout* was) *erysipelas's*, *scirrhus*, and even *hot tumors*, were safely, quickly and certainly (without relapses or danger) carried off; and that the danger arising in common practice from purging off a *fit* of the *gout*, was, that care was not taken to prevent its returning, or its falling on some other noble parts, by continuing these gentler warm purges, diluters, alteratives, and strengtheners, to carry off intirely the *gouty* remains to sweeten the sharp humors, and to strengthen the *relaxed* solids. But this I mention only to illustrate and confirm my advice, of gentle *stomach-purges*, in the intervals of the *gout*. For I am of opinion, that the most dangerous and active part of the *gouty* humour, is a great deal too subtle (tho' an humour certainly it must be) to be carried off by any gross evacuation whatsoever. And many fatal experiences

His way of
living.

7. To these observations I will add a few particulars, relating to the regimen and diet, which seem proper in both these distempers; for I would not omit mentioning any thing that may be serviceable to such as labour under the same diseases that I do. In the morning, as soon as I am up, I drink a dish or two of tea, then I go out in my coach till noon, and at my return home dine moderately upon any kind of meat I like, that is easy of digestion: for moderation is principally necessary. I drink a little more than a quarter of a pint of canary immediately after dinner every day, to promote digestion, and drive the gout from my bowels. In the afternoon I go out again in my coach, and, when business permits, take a turn into the country for two or three miles for good air. A draught of small beer serves me instead of a supper; and I drink another draught after I am in bed, and about to compose myself to sleep, in order to dilute and cool the hot and acrid humours lodg'd in the kidneys, which breed the stone. I always prefer small beer brewed with hops, to that which has none, because, tho' unhop'd small beer is smoother and softer, and so better suited to bring away the stone from the kidneys, yet that which is brewed with hops, on account of the slight stypticity it receives from the hop, is less apt to breed gravel and calculous matter, than that which has none, as being more viscid and slimy. On my purging day I dine upon a chicken, and, notwithstanding, drink my canary as usual. I go to bed early, especially in the winter season; this being one of the best helps for promoting digestion, and preserving the proper order of nature: whereas, on the contrary, sitting up late weakens and vitiates all the digestive faculties in aged persons afflicted with any chronic disease, and injures their vital principle to a degree, not to be easily remedied. And to prevent bloody-urine from the stone, whenever I am obliged to go very far in my coach upon the stones (for the longest journey in unpav'd roads does me not the least hurt) I always drink a large draught of small beer before I set out, and another in the

Condemns
sitting up
late.

riences have confirmed the danger of tampering after such a manner (whatever authority it may have to defend it, or, specious reasons to inforce it) to suffer any cautious persons to venture upon it. See his essay on the gout, p. 34, & seq.

the way, if I am abroad a considerable time; by which means I secure myself pretty well from bloody-urine.

8. But with respect to the gout, I will add one observation, which is this: of late years the gouty matter sometimes strikes in, occasioned by some error in the non-naturals, the signs of which are great sickness, with vomiting, and a slight pain of the belly, whilst the limbs at the same time are suddenly freed from pain, and better disposed to motion than ordinary. In this case I drink a gallon of posset drink, or small beer, and, after having discharged it upwards, take a small draught of *canary*, with eighteen drops of *liquid laudanum* in it, and compose myself to sleep: and by this method I have several times saved myself from imminent death (d).

Attack'd
sometimes
with the
gout in-
wardly.

His me-
thod of re-
lieving
himself.

9. Though it may perhaps seem absurd, especially in a person whose life or death is of so little moment, to mention himself so frequently, yet my intention in communicating these particulars is to serve others, whose lives and health are probably of greater value.

Apologiz-
es for talk-
ing so
much of
himself.

10. Lastly, we are to take notice of the great danger which some persons who have the gout and stone run, by unadvisedly taking *manna* dissolved in the purg-

ing

(d) Dr *Cheyne* tells us, that slight touches of the gout in the stomach, which seems to have been our author's case, will yield to any little stomach purge; but adds, that it is more obstinate towards the decline of life; when it settles in a constant pain, nauseating and kecking in the stomach. Vomits are reckoned dangerous in the gout, lest they should derive the humour on the stomach: but there can be no room for such a suspicion here, wherefore, upon the first seizure of the stomach, a vomit is instantly to be administer'd, and repeated, according to the occasion of the case: after that tincture of *biera picra*, with compound spirit of *lavender*, and a few drops of tincture of *snakeweed*, and tincture of *diambra*, with a hot *sinapism*, or blister on the ancles: and, last of all, the highest cordials, and most generous wines may be freely indulged, without fear of inflammation. Among the cordials, I would recommend the *Electuarium de ovo* as containing *camphire* (the most constant and active *diaphoretic*, and the most useful one for that purpose) and some other of the richest cordials. After all this management, should the gout still continue in the stomach, and become habitual, (which it seldom does after such a method taken in time) nothing but a long course of the *Bath waters*, with *steel*, bitters, and gentle stomach purges, a regular diet, and proper exercise, can effectually cure it. See his essay on the gout, p. 76, 77. See also pag. 503. the note. (b)

Opiates are to be used with great caution, and very sparingly, for fear of weakening the inward parts, and fixing the pain, which they are apt to do, if indulged too freely.

Steel-waters recommended in these diseases.

ing mineral waters; for though being taken this way, it works quicker, and sits easier on the stomach, yet these inconsiderable advantages are no equivalent for the mischief otherwise occasioned by the waters. For if the stone in the kidneys be too large to be forced thro' the ureters into the bladder, these waters generally cause a fit, which continues, not without endangering the life of the patient, till the stone gets back again into the *pelvis* [e]. *Steel-waters*, likewise, are unsafe, unless it be certainly known beforehand, that the stone is small enough either to slip, or force its way through the ureters; which, to the best of my judgment, can only be learnt with certainty from hence; viz. if the patient hath already had a fit of the stone, (which consists of a very sharp pain in one of the kidneys, extending thro' the whole duct of the ureters, and accompanied with violent vomiting) he may be assured that the *pelvis*, instead of having a large stone in it, rather contains a number of small stones, one of which will fall occasionally into the ureters, and cause a fit, which generally lasts till it is forc'd into the bladder. In this case, I say, there is no better remedy either to prevent the increase of small stones, or to expel them from the kidneys, than drinking *steel-waters* plentifully every summer (f).

II. But

(e) The term *pelvis* here does not seem to be used with strict propriety. 'Tis true there is a *pelvis* of the kidneys, which is a membranous cavity, but when that is meant, as it must needs be in this passage, it should be clearly expressed: and yet even then I think 'tis hardly probable a stone should be moved thence into the ureters and returned.

(f) Mrs Stephens's medicines have been found so very beneficial in abundance of instances in this painful distemper, that they well deserve to be rank'd amongst the best palliating remedies yet discovered for it; and of course to be tried by those who are unhappily afflicted with it; though they are not entirely to be depended on as a *solvent* for the stone. The basis of them is *soap*, the virtue of which, as Dr Hales observes, is chiefly owing to the *soap-lees*; which, as they may be more easily taken, and are much less nauseous than *soap* in substance, may be commodiously and advantageously substituted instead of it. Dr Furin continued the use of them for a considerable time with great success; as appears from his own case, communicated by himself to the public, and annex'd to "Rutty's account of some new experiments and observations on Joanna Stephens's medicine for the stone. Printed for R Manby in 1742." And I have the pleasure to be acquainted with a worthy

II. But as persons may often be seiz'd with a fit of the stone, when these waters are either not procurable, or at an improper season for drinking them, they are to be treated according to the following short and plain method.

A fit of the stone how to be treated.

P p

method.

worthy and eminent physician, who has taken the full quantity of *soap* directed by Mrs *Stephens*, for several years past daily; which has made him greatly easier than he was before he began with it, and rather mended than impaired his general health.

It must be observed, however, that these medicines are not proper in a fit of the stone, which is best relieved by bleeding, gentle purging, emollient and turpentine glysters, warm bathing and emollient lubricating liquors, with nitre dissolv'd in them, drank freely; and opiates, in case of great weakness, and violent pain, and an unsuccessful trial of other things.

In small stones and gravel, *soap* and *rhubarb* are excellent remedies, one part of the latter to four of the former for a dose now and then adding a little saffron.— e. g.

Take of hard soap, two scruples; rhubarb, six grains, or half a scruple, saffron, five grains; syrup of marsh-mallows enough to make the whole into a bolus, to be taken twice a day.

The diuretic salt is an admirable medicine in the gravel; the method of preparing which may be seen in the late College dispensatory. As *Sydenham* is here very short and general, though what he says is just and masterly on the whole, I thought the following observations on the stone and nephritic disorders, which an ingenious physician of my acquaintance lately collected from the best practical authors and communicated to me, with leave to translate (for he wrote them in latin) and publish them, would be very acceptable to the reader, as they set before him, in one connected view, the true intentions which ought to be pursued in these cases, and contain, in a short compass, the substance of the surest practical rules that lie dispers'd in many volumes.

I. In disorders occasioned by the stone or gravel lodg'd in the kidneys or ureters, if the vessels be too much distended from a fulness of blood, let bleeding be first performed, to guard against an inflammation, and that, by lessening the *vis vitæ* a little, the passages may be the sooner relax'd and dilated by the remedies that are afterwards to be administer'd.

II. Soft oily medicines should be given first in these cases, and then diluters in a sufficient large quantity, as well by the mouth, as by glysters frequently repeated, with which fomentations, *semicupia*, &c. may be joined as assistants; and the body must be kept very open at the same time, with honey, manna and the like.

Acrimonious purgatives being apt to inflame and ruffle, are hurtful here; and, therefore, such as contain aloes are improper; for, besides increasing the original complaint, they may occasion the colic, and the painful piles in sanguine habits.

III. The vomiting which happens in the fit should not be check'd, but rather kept within moderate bounds, as nature causes this motion to prevent the cohesion of the gravel, which is driven forward by the action of the abdominal muscles, and

method. The patient being fanguine and not aged, take ten ounces of blood away from the arm of the pain'd side, then let a gallon of *posset-drink*, in which two ounces

so gently expelled: therefore, to assist by drinking plentifully of some aqueous liquor warm, with or without honey, as is most agreeable to the patient, is the best way of remedying it. Glysters likewise generally relieve it, for the body being opened, and a free passage thereby made for the wind to escape; the violent retchings and anxiety immediately cease.

IV. 'Tis worth considering, that the *colon*, which forms a kind of arch over both kidneys, is sometimes join'd to one of them, especially the left; and consequently, if an emollient decoction be thrown up into it warm, it may, by its heat and moist vapour, relax and soften the kidneys like a fomentation. Hence we see the reason why glysters, frequently injected, do so much service in most distempers of the kidneys: — and why wind in the first passages, and much hard and dry excrement, usually occasion such grievous disorders as to bring on a fresh fit: — and why the left kidney is more subject to this disease than the right; because it lies nearer to the *colon*.

V. When the vomiting (3) abates a little, or the stomach and bowels, at least, are freed from their foul contents, and the body is open enough, then, and not before, 'tis proper to give opiates which by easing the pain, and relaxing the spasmodic tension and twisting of the fibres, most effectually open the passages.

VI. When the oily medicines, the diluents, (2, 3) and anodynes (5) have considerably abated the spasms, the pulse is grown calmer and softer, and the whole body of a moist and equable heat and the wind readily goes downwards, the expulsion of the stone, or gravel, may be attempted by giving the gentlest expellents now and then in the intermediate spaces.

VII. But where the stone sticks in the kidneys, expellents (6) are unsafe, unless it should seem very probable, from the immediately preceding fit, that the stone is not too big to pass the ureters. Diluents, taken too plentifully in this case, do mischief, unless they are soon thrown up again, as they can not easily pass through the vessels.

VIII. If a large stone be lodg'd in the bladder, violent diuretics will be very apt to wash off the viscid mucus which lines the stone of a good thickness, and softly covers all its rough and sharp points as it were with a sheath; and by violently moving, the stone itself may be dislodged from the cavity where it lay at rest; and so occasion a grievous painful fit. But the gravel in the bladder requires the use of stronger diuretics than the gravel in the kidneys. Some emollient infusion, as of linseed, drank very freely, keeping the body cool so as to fill the bladder; may prove very serviceable to wash away stones or gravel by an increasing quantity of urine.

IX. It is to be generally observed, that the more painful the fit, the gentler the diuretics must be that are used, and the less copiously they must be exhibited.

X. In aged and weak subjects, strengtheners and cardiacs should

ounces of the roots of marsh-mallows have been boil'd, be drank with the utmost expedition, and the following glyster injected.

P p 2

Take

should be mix'd with the diuretics; and such may be allow'd the use of generous liquors.

XI. When the pain and spasms are very violent, and yet there is reason to hope that the stone will pass the urinary ducts, gentle diuretics mix'd with mild anodynes do most service; for the latter relax the parts and ease the pain, and the former than more safely propel the stone.

XII. In a true or inflammatory *nephritis*, to whatever cause it is owing, such medicines as quicken the motion of the parts, and stimulate, tho' in the smallest degree, must be prohibited. On the contrary, bleeding, manna, and oily things, the gentlest laxatives, diluents in a middling quantity, coolers, emollient glysters without any saline and purging, and therefore, stimulating ingredients, but with the addition of nitre only, frequently repeated, are the best remedies in this case. The distemper is discoverable by a violent pungent tense pain of the region of either or both kidneys; an acute continued fever, the making little urine, and that either high-colour'd, or thin and watery, the *lentor* of the blood taken away by bleeding, &c.

XIII Hence the method of preserving those persons from the stone and nephritic distempers who are subject to them, is best deduc'd.—And this consists in bleeding twice or thrice a year, to lessen the quantity of blood;—diligently guarding against the suppression of the usual natural evacuations of the menses or piles;—in keeping the body constantly open; [For which purpose *Boerhaave* recommends borage, chervil, lettuce, parsley, scorzonera, turnips, &c. to be boiled in fresh broth, and the drinking of whey, butter milk, and milk; and observes, that the use of these aliments for such a space of time, till the body becomes somewhat loose, and continues so, is highly beneficial, though some little weakness should ensue upon it, as this debility often happily cures even an inveterate distemper.]—in avoiding all crude and flatulent aliments, and what makes copious hard faces, every thing acrid and sharp, and all great commotions of body and mind;—in living temperately and abstemiously;—in diluting the food with small watery liquors, or mild clear malt liquor, drinking a little while, and taking about a pint of warm water fasting, or before dinner; which last remedy is mightily extoll'd by *Hoffman*:—in not lying in too warm and soft a bed, and especially not upon the back, a posture whereby the kidneys, which are situated in that part, are streighten'd and compress'd by the weight of the incumbent viscera, and which likewise heats, and of course injures them still more;—in not leading a sedentary inactive life, but using moderate exercise every day in the open air, if the weather will permit, and gentle frictions of the whole body, especially in a morning, in bathing, &c.

—The best method of treating *nephritic pains*, according to *Dr Mead*, is to begin by blood-letting. And it will

Of Bloody-Urine from

Take of the roots of marsh-mallows and the white lilly, each an ounce; the leaves of mallows, pellitory of the wall, bear's breech, and camomile flowers, each an handful; the seeds of flax and fenugreek, each half an ounce; boil them together in a sufficient quantity of water to a pint and half; in the strain'd liquor dissolve brown sugar and syrup of marsh-mallows, each two ounces: mix the whole for a glyster.

When

will be of service to the patient, to observe when the fits are wont to return, and to empty the vessels at that time which threatens the greatest danger. For it is well known, that this disease is partly occasioned by the compression of the small ducts of the kidneys from the fullness of the capillary arteries; which fullness is increas'd by the new and full moon. Whence I have more than once wonder'd, that the chief bent of the writers on this disease is, to drive down the gravel into the ureters and bladder: whereas the dissection of dead bodies has taught me, as I have mention'd before, that the first rudiments of a *calculus* are a very limpid *serum* in the *caruncles* of the kindey; and that this may harden to the consistence of a stone, will not seem strange to those who are acquainted with the attractive force of salts in solution, and with the effects of obstructions in the capillary vessels. And hence it is that *calomel* given now and then is of greater service in the beginning of this disease, than any diuretics: because this medicine removes the obstructions of the minute vessels, and thus prevents the cohesion of saline particles, which is frequently the consequence of such obstruction. Moreover, daily experience shews, that too free an use of diuretics is prejudicial in diseases of the kidneys. — *Treatise concerning the influence of the sun and moon upon human bodies, translated by Stack, p. 98.* —

XIV. Those who in order to preserve themselves from these maladies frequently use acrid and heating things, and strong forcing diuretics, take the worst of methods; for by this means the kidneys are hurt, and overcharged with too great a flow of humours, and an inflammation often occasion'd. But when gravelly matter has been for some time observed to be discharged with the urine, and to subside presently after it is made, light steel waters, either of the purging or diuretic kind, very safely and effectually expel it, and strengthen the kidneys; and likewise admirably prevent any calculous concretions that might afterwards be form'd, if drank plentifully for some weeks every summer.

That such persons as are unhappily afflicted with the *gravel, stone, or gout*, may want no helps that *aliments* can furnish, both to relieve and prevent the fits, we have here subjoined Dr *Lobb's* two classes of the *stronger* and *weaker*, *DISSOLVENTS* of the *STONE*, and his third class of *NON-SOLVENTS*, together with an abstract of his *RULES OF DIET*, for *calculous* and *gouty* persons, and recommended them to general use in all such cases.

When the patient has thrown up the posset-drink, and the glyster done working, give a sufficiently large dose

P p 3,

| I. Class. | II. Class. | III. Class. |
|--|---------------------------------------|-----------------------------|
| The stronger Dis-SOLVENTS of the STONE. | The weaker Dis-SOLVENTS of the STONE. | The NON-SOL-VENTS. |
| Bread | Asparagus | Barley |
| Cellery | Cabbage, common | Beer |
| Codlins | Carrots | Cabbage, red |
| Cucumbers | Chocolate | Currants, red |
| Currants, foreign | Coco | Cyder, Southam |
| Cyder, Herefordshire, and Monmouthshire. | Coffee | Golden rennits, their juice |
| Figs | Cyder, Gloucestershire | Horse radish |
| Grapes, white | Elderberry juice | Malt |
| Hops | Golden pippins | Millet seeds |
| Leeks | Golden rennits, their decoction | Oatmeal, its infusion |
| Lettuce, cabbage | Honey | Oxion tea |
| Lemons | Mallow leaves | Parsley root tea |
| Milk | Malt and hops | Salt and water |
| Mulberries | Mulberry brandy | Salt of wormwood and water |
| Mulberry wine | Neutral mixture | Spinach |
| Non-Pareils | Non-Pareil tea | Tea green its infusion |
| Onions | Oatmeal | Verjuice and water |
| Oranges | Parsley | Water, new river |
| Pears | Parsnips | Water gruel |
| Punch | Pearl barley | Wheat, its decoction |
| Radishes, garden | Potatoes | Wine, currant |
| Raisins | Rice | —elderberry |
| Sorrel | Strawberries | —leek |
| Tea, green | Tea bohea | —mountain |
| Turnips | Wine, red port | |
| Vinegar | —Canary | |
| Wine, white port | —Madeira | |
| | —rhenish | |
| | —raisin | |

RULES OF DIET for calculous and gouty persons.

Let them BREAKFAST on warm milk crumb'd with bread and sugar'd :—or on bread and butter with green tea made by decoction :—or on the same with limonade, or orangeade, or a soft cyder mix'd with water to the strength of small-beer, and sweetened :—or on toast and butter with coffee and milk sweetened :—or on chocolate and milk, or coco and milk :—or on bread gruel sweetened, with two or three spoonfuls of white port, or of a soft cyder added to it :—or on mallow, oatmeal, barley, or rice gruel, made agreeable to the palate.

They may DINE on bread pudding plain, or with currants ; rice pudding plain, or with currants, on puddings made with oatmeal, or pearl barley, either plain, or with currants ; apple pud-

dose of *liquid laudanum*, for instance, twenty five drops, or fifteen or sixteen grains of MATTHEW'S pill. But bleed-

puddings, or apple dumplings, currant fritters, or apple fritters.—A little animal food, with a large proportion of greens, such as young garden radishes boiled, asparagus, lettuce and cabbage, favoys, colley flowers, and brocoli, on account of their affinity with cabbages; likewise turnips, potatoes, onions, and parsnips: all these boiled.—The following must be eaten raw, *viz.* young radish tops, mustard, garden cresses, lettuce, sorrel and parsley, dress'd with vinegar, verjuice, or lemon juice, or orange juice, and salt, in the spring:—or *Silesia*, or cabbage lettuce, or goss lettuce, with vinegar, or verjuice, mustard, and salt, in the summer:—or in the winter, cellery with vinegar, or verjuice, and a little salt; and it may with great advantage be plentifully put into soups.—Cucumbers, with vinegar pepper, and salt, make a suitable sallet, and indeed, an *excellent medicine* in the summer season both against the *stone* and *gout*.—And in winter, pickled cucumbers both large and small may in some measure answer the same end.—After the animal food, tarts made with any of the summer fruits, or scalded apples eaten with rose water, or river water, or with milk and sugar; or bak'd apples or pears may be properly eaten.

When that is made a part of the dinner, the eating some fruit after it to prevent too great an increase of alkaline salts in the blood is very adviseable; as *strawberries*, *mulberries*, *rasberries* *codlins*, *cherries* *grapes*, *apples*, and *pears*:—those in *Italic* are found by experiments to have a quality strongly dissolvent of the stone, whence it is concluded they are as good in the gout.

Small drinkables at dinner may be limonade, made with the juice of one lemon, a point of water, and some sugar; —or with orange juice in the same manner;—or codlin, pippin, strawberry, or mulberry water, made by boiling two ounces of any of them in water enough to a pint, and then straining it off and sweetening it to the taste:—or fig, raisin, or currant water made in the same manner; only the first may be acidulated with lemon, or orange juice;—or honey water, made by dissolving, or boiling an ounce a few minutes in a pint of water:—or onion water, made by boiling four ounces, peeled and sliced, in a pint and half of water to a pint:—or white port mixed with water to the strength of small beer, and sweetened, or soft cyder so mix'd, or milk and water, or barley water and milk.

Strong or spirituous drinks proper for persons afflicted with the *stone* or *gravel* are *foreign wines*—white and red port, canary, Madeira, and rhenish.—*Home made spirituous liquors* are, raisin, or mulberry wine, soft cyder, perry, mulberry brandy diluted with water; strawberry brandy so diluted; punch sweetened with honey, or sugar, and mead.—Ale, strong and small beer, are liquors not very prejudicial, but no way contribute to the cure of those diseases.

For DINNER, he recommends milk and bread, only warm'd, apple tarts;—bread with strawberries and red port sweetened;

bleeding is not to be used in aged persons, worn out by some inveterate chronic disease, and antient women, subject to the vapours, especially if they void black gravelly urine at the beginning of the fit: nevertheless, in other respects, this method must be closely followed.

12. But to return to the stone, supposing it a large one, which is our present subject: if the patient hath never had a fit, on account of the stone's being too big to pass the *pelvis*; *steel waters* will not only do no service, but cannot be used without immediate danger, for the reasons above-mentioned. Nor do *mineral waters* succeed better in gouty persons, if they be advanced in years, as such mostly are, and withal of a weak and phlegmatic constitution; the strength of nature being sometimes impaired to that degree in such subjects, as to give great reason to apprehend the total loss thereof

Steel-waters pernicious in case of a large stone, and in the gout.

P p 4

from

—cucumbers with vinegar and a little salt, and eaten with bread;—apples boiled and sweetened, and spread on a slice of bread;—baked or stew'd apples and pears eat with bread;—roasted apples and milk and sweetened;—asparagus boil'd, with butter and bread;—bread and butter, with or without a sallet of goss lettuce, vinegar, mustard, and salt;—bisket, or dry bread, and so much of one or other of the small drinkables directed for dinner, and two, three or four glasses of wine, or cyder.—bread gruel made with onion or leek water, with a little salt, butter, and bread;—oatmeal gruel made in the same manner;—currant gruel, sweetened with sugar, and bread broke into it;—coco sweeten'd with a slice of toasted bread in it;—a piece of bread toasted and spread with honey, and warm milk drank after it;—and any of the small drinkables prescribed at dinner may be used at supper.

Besides the observance of the foregoing *rules*, he advises persons much afflicted with the *stone* to drink four or six ounces twice a day, of *onion water*, *leek water*, *lemonade*, *orange water*, or any other of the *first class of DISSOLVENTS* that may better suit the season of the year, the temperature of the air, and their constitutions.

Persons much troubled with the *gout* he judges should be very careful to avoid whatever may check or diminish the discharge by insensible perspiration; because the impediments of this evacuation may occasion a retention of the particles of the *gouty* humour in the body and a fit of the *gout* in consequence of it.

As *acids* have been generally esteem'd hurtful in the *stone* and *gout*, it may not be amiss to observe that the doctor recommends them on the foundation of some experiments, which prove that several *acids* in common use have a quality DISSOLVENT of the human *Calculus* out of the body; whence he scruples not to prescribe them in the *gout* likewise. See his *treatise on DISSOLVENTS of the STONE*, &c. p. 46, 142, and 362, & seq.

Of Bloody-Urine &c.

from such a quantity of water. But whether the ill consequences, happening to persons of this constitution, proceed from this, or some other cause, I am thoroughly perswaded that abundance of persons, who have been extremely debilitated, and in a manner worn out by this distemper, have been destroy'd by these waters.

13. And this is in a manner all I have discovered concerning the cure of diseases to the present day, *September the 29th, 1686.*

Pro-

Processus Integri:

OR,

Complete Methods

OF

CURING most DISEASES.

To which are added,

An accurate Description of their respective
SYMPTOMS,

Several judicious OBSERVATIONS,

AND

A short TREATISE of a CONSUMPTION.

ADVERTISEMENT.

IT may not be improper here to caution our readers; not to depend wholly on what is said and directed to be done in most of the diseases described in the subsequent short treatise; but to consult those places in the foregoing works of our author, where they are treated of at large, and practical notes of our own, and others, occasionally added, to supply deficiencies, correct mistakes, or further to explain, illustrate and confirm his sentiments and observations.

THE EDITOR'S PREFACE.

THE reader is here presented with a specimen of practice, drawn up with great thought and care, and written with his own hand, for the use of his son, a physician, and given to me by the excellent SYDENHAM: a man who hath had few competitors in any former age, and will be equall'd by few in any succeeding one; who was no less eminent for his wonderful sagacity and penetration, than his probity and remarkable benevolence to mankind, so that he died greatly regretted by all that knew him, whose rules, tho' they are deeply imprinted in my mind, yet, for fear they should by some means or other slip my treacherous memory, both to my own prejudice, and that of the diseas'd, I sent the manuscript to the press, and caus'd about twenty copies to be printed to oblige my friends. How this piece came to be published, so uselessly enlarged, among the miscellanæa curiosa, printed last year at Nuremburg, I know not: but it is now put into such a dress as to render it every way useful; not stuffed with fanciful speculations, and absurd notions, nor adorned with a favourite hypothesis, supported by many specious reasonings, but describing diseases candidly and accurately, and yet more accurately exhibiting the methods of cure; the sole scope of the work being to shew what nature is able to perform and bear. And to say the truth, if a person knows the structure of the parts, diseases will discover themselves by their symptoms, which may be learnt from diligent observation, and he will thence be taught to apply the true and genuine method of cure, by diet and medicine, and become a successful practitioner.

It is of little significance, whether an alcali or an acid offends, or the disease be seated in the animal spirits, or the blood, or in some hidden bowel, in order to discourse pretty learnedly and fully of the periodic return of intermittents; whilst the fever mean time plainly discovers itself even to the attendants on the sick, by the restlessness, thirst, heat, quick pulse, retchings, and other symptoms. Hence I have often wonder'd, why physicians of great judgment and practice do so solicitously and scrupulously endeavour in their writings to investigate the immediate and proximate causes of disorders, and bring them out of that obscurity in which nature has involved them, tho' they fail in
the

The Editor's PREFACE

the attempt; and cannot but know at the same time how totally ignorant they are of the causes of some obvious appearance; as, for instance, whence proceeds the greenness of grass, or the whiteness of snow. It were better to personate the physician than the philosopher, (for who would have Cartesius for his physician?) duly and clearly to enumerate the most minute particulars, and candidly and faithfully to propose the most effectual remedies, for the cure of every particular disease. By this means the art of medicine, being no longer confin'd to the narrow limits, to which it is now restrained, will be generally known, happily promote the health of mankind, and cause its professors to be had in the highest esteem.

Our judicious author, not long before his death, intended to have given us a treatise of a consumption. He spared no pains in searching after nature's method of curing diseases, that he might assist her, and alleviate the miseries of mankind. Hence being taught by undeniable experience, and a series of most faithful observations, he improved practice, and reduc'd the rules thereof to greater certainty. But, to the misfortune of the consumptive, whilst he persued these studies without intermission, the debilitated spirits forsook their ordinary posts, and the gout, which he had been afflicted with several years, and which had weakened his limbs, struck in upon the bowels, and occasioned a violent vomiting and looseness, which endangered his life. But the prince of physicians yielded not to a single disease, for this was succeeded by the stone in the kidneys, which having corroded the mouths of the vessels, he voided more bloody-urine than old age could bear; so that suffering the disorder to take its course, being neither desirous of life nor death, it carried him off. But not totally to deprive the consumptive of help, we have published such fragments, as every where discover their author, and may be serviceable at least in the first stage of a consumption (for it is not right to conceal any thing that may relieve our fellow creatures) that from this sketch it may appear, how accurate and complete a treatise of consumptions we might have expected from him, had providence permitted him to live to finish it.

That our very deserving author was eminently skilful in curing fevers, the small-pox, and measles, and all other acute and chronic diseases, the following sheets will shew. The properest regimen and diet are directed, only a few neces-

necessary remedies are prescribed, such as are neither invented to enrich the apothecary, nor compounded out of vain ostentation. He allow'd his thirsty patients to quench their thirst, as he did his own, by drinking small beer freely at pleasure, which wonderfully refresh'd and cool'd them; and did not cruelly stop his ears to their entreaties, and substitute nauseous apozems and julaps instead of it. He was very careful to prevent their being more heated, who were already too hot, either by making a large fire in the room, heaping too many clothes on them, or giving them remedies to carry off the crude and yet unconcocted matter by the pores, which being by this means put into motion, flies to the brain, and occasions a phrensy, or coma, or from the extravasation of the blood, covers the breast with purple spots, or what are termed miliary eruptions. Can the history of the small-pox be written in a more accurate and masterly manner than he has done it? He specifies the day of eruption in both sorts, and exactly describes the nature of the pustules: expressly tells us when the salivation begins, and how long it lasts; in what manner the swelling of the face and hands appears, and particularizes what is to be expected every day. He was the first who advised the use of opiates in this distemper, (with what advantage let the physicians judge) and who justly condemn'd the practice of giving cordials before the eruption, which often occasioned a confluent kind of small-pox. But these particulars will be better learnt from his own writings; wherefore I take my leave of the reader, intreating him to overlook whatever errors he may meet with in this performance.

S. M.

The

The *Prescriptions* most frequently used by
the AUTHOR.

The common purging potion.

TAKE of tamarinds, half an ounce; sena, two drams; rhubarb, a dram and half; boil them together in a sufficient quantity of spring-water to three ounces; in the strain'd liquor dissolve manna and solutive syrup of roses, of each one ounce: mix the whole for a potion.

The common vomit.

Take of the distill'd water of holy thistle, two ounces; of antimonial wine, an ounce; syrup of cloves, half an ounce; mix them together for a vomit, to be taken at four in the afternoon, drinking a large draught of posset-drink after every puke.

The pearl julep.

Take of the distill'd waters of black cherries and milk, each three ounces; small cinnamon water, an ounce; prepar'd pearl, a dram and half; fine sugar, enough to sweeten it; and rose water, half an ounce; mix all together for a julep, of which let the patient take four or five spoonfuls when he is faint.

The cordial julep.

Take of the distill'd waters of black cherries and milk, each three ounces; plague water, syrup of cloves, and the juice of citron, each half an ounce; mix them for a julep, a few spoonfuls of which are to be taken often.

The dietetic decoction.

Take of the roots of sarsaparilla, six ounces; saffras and china, each two ounces; liquorice-root, an ounce; boil them together in two gallons of spring-water for half an hour; then let them stand close cover'd upon hot ashes, twelve hours, afterwards boil them again till one third of the liquor is evaporated; and upon removing it from the fire, infuse therein half an ounce
of

of anniseeds, for two hours; then strain it off; lastly, pour off the decoction, after it is clarify'd by standing, into bottles, in which let it be kept well cork'd for use.——It is to be drank for thirty days for common drink.

The opening and antiscorbutic apozem.

Take of the roots of grass, succory, fennel, and asparagus, of each an ounce; currants and raisins stoned, each two ounces; the leaves of liverwort, hart's-tongue, and maiden hair, each one handful; the leaves of brook-lime, added towards the end, two handfuls; boil them together in a sufficient quantity of spring-water to a quart, and towards the end of the operation add half a pint of Rhenish wine; strain off the decoction, in which, whilst hot, infuse in a close vessel for two hours an handful of the leaves of garden scurvy-grass, then having strain'd off the liquor again, add to it syrup of the five opening roots, and of the juice of oranges, each two ounces; small cinnamon water, an ounce; mix the whole together for an apozem, to be taken in the quantity of half a pint at a time, in the morning, and at five in the afternoon, for a fortnight.

The thickening linctus for a cough.

Take of oil of sweet almonds, an ounce; syrup of ree poppies, of purslain, and of jujeb's, and the healing loboch, each half an ounce; white sugar a sufficient quantity; and make thereof a loboch or linctus, according to art; to be taken frequently off a liquorice stick.

A more thickening linctus.

Take of the conserve of red roses, syrup of violets, and of white poppies, each an ounce; white poppy-seeds, three drams; pass them thro' a hair sieve; then add oil of nutmegs, by expression, six drops: mix and make a loboch.

For a thin tickling cough.

Take of the conserve of red roses, two ounces; syrup of white poppies, and of jujeb's, each an ounce; olibanum,

The Author's Prescriptions.

num, mastich and amber, in fine powder, each a dram; oil of nutmegs by expression: mix them together for a lochoch; a small quantity of which is to be taken often, and swallow'd slowly.—And let a spoonful of it be taken twice a day with eight, ten, or twelve drops, of balsam of sulphur, with oil of aniseed.

Purging ale.

Take of polypody of the oak, a pound; monk's rhubarb, the leaves of sena, and stoned raisins, each half a pound; rhubarb slic'd, and horse-radish root, each three ounces; the leaves of garden scurvy-grass and sage, each four handfuls; four oranges slic'd, infuse them together in five or six gallons of ale, whilst it works; and when it is fit to drink, let it be used for common drink for a fortnight, or three weeks, drinking a draught of it every morning especially.

The hysteric plaister.

Take of galbanum (dissolv'd in tincture of castor, and strain'd off) three drams; tacamahac, two drams; make a plaister thereof, to be spread on leather, and applied to the navel.

The purging medicine for very young children.

Take a small spoonful of the syrup of succory, with rhubarb, and give it the child.

The bitter purgative decoction.

Take of the bitter-decoction, made with a double quantity of sena, four ounces; syrup of buckthorn, an ounce; the electuary of the juice of roses, two drams: mix them together for a draught.

Processus Integri:

OR,

Complete METHODS of curing most DISEASES.

*Of that disorder which is called the hysteric passion in women,
and the hypochondriac disease in men.*

1. **W**HEN the mind is disquieted by some great misfortune, the animal spirits run into irregular motions, a copious transparent urine is voided between whiles, the patients utterly despair of their recovery, and presage the worst evils to themselves. Whatever part of the body the distemper attacks, and it affects several, it soon produces the symptoms peculiar thereto. Thus. when it seizes the head immediately after a difficult delivery, it occasions an apoplexy, which terminates in a palsy of one side. Sometimes it causes convulsions, much like an epilepsy, and appearing in this manner it is commonly term'd the strangulation of the womb, which is accompanied with a rising of the *viscera* and *præcordia* into the throat. Sometimes the patient is seiz'd with the *clavus hystericus*, which is a sharp pain in a part of the head, no larger than a thumb's breadth, and is attended with a vomiting of green matter, not unlike *porraceous* bile.

2. The fit likewise counterfeits a palpitation of the heart, a cough, the colic, the iliac passion, the stone, and a suppression of urine, and sometimes causes excessive vomitings and a looseness. Outwardly, in the fleshy parts it sometimes occasions pains, and sometimes a swelling, which in the legs resembles a dropsy. It also attacks the teeth, and the external parts frequently feel as cold as a corpse, the patients laugh or cry without the least provocation, and sometimes spit so plentifully, that one would suspect they had been anointed with some mercurial ointment. Whatever part hysteric pains affect, they always leave it so tender upon their going off, that it cannot bear to be touch'd, as if the flesh had been beaten with stripes.

3. Let eight ounces of blood be taken away, and a galbanum plaister applied to the navel; and next morning let the patient begin to take the following medicines.

Q q

Take

Take of the greater Pil. cochixæ, two drams; castor powder'd, two grains; balsam of Peru, three drops; make the whole into twelve pills, of which let four be taken every morning, or every second morning, (according to the strength of the patient) at four or five o' clock, sleeping after them.

Take of the distilled water of rue, four ounces compound briony water, two ounces; castor (tied up in a piece of linnen, and suspended in the vial) half a dram; fine sugar, enough to sweeten the whole; mix them for a julep, of which let four or five spoonfuls be taken whenever the patient is faint.

4. After finishing these pills, let the following medicines be used.

Take of the filings of iron, eight grains; extract of wormwood enough to make it into three pills, to be taken early in the morning, and at five in the afternoon, for the space of thirty days, drinking after each dose a draught of wormwood wine.

5. If the form of a bolus be more agreeable.

Take of the conserve of Roman wormwood, and of orange-peel, each an ounce; candied angelica and nutmeg, and Venice treacle, each half an ounce; compound powder of wake-robin, three drams; candied ginger, two drams; syrup of citron juice, or, in defect of it, syrup of orange peel, enough to make the whole into an electuary.

Take of this electuary, two drams; the filings of iron, eight grains; syrup of orange-peel, enough to make them into a bolus, to be taken morning and night, with a draught of wormwood wine, or six spoonfuls of the following infusion after it.

Take of the roots of angelica, elecampane and master-wort, each an ounce; the leaves of common wormwood, the lesser centory, horehound, and germander, each an handful; the peel of two oranges, sliced thin; put thereon as much canary as will float the breadth of two fingers above it; let the tincture be strained off as it is wanted.

6. In weakly constitutions steel may be exhibited in powder, according to the following form.

Take of iron filings, finely powder'd, an ounce; compound powder of wake-robin, six drams: the seeds of coriander, anise, and sweet fennel, each half an ounce; cinnamon, and red coral, prepared

pared, each three drams; nutmeg, two drams; make them into a fine powder, to which add fine sugar, an equal weight with all the foregoing.

Half a dram of this powder is to be taken twice a day, for the space of four days, and afterwards a dram twice a day, for the space of forty days, drinking after each dose, six spoonfuls of the following julep, or as much wormwood wine.

Take of milk-water, twelve ounces; compound gentian water, four ounces; the greater compound worm-wood water, two ounces; fine sugar, enough to sweeten it: mix them for a julep.

Or,

Take of Rhenish wine, in which wormwood has been infused, half a pint; compound gentian water, two ounces; syrup of clove-july flowers, an ounce; mix them for a julep.

Take of fine myrrh, galbanum and fetid asa, each a dram; castor, half a dram: balsam of Peru, enough to make them into a mass, each dram whereof is to be made into twelve pills, of which three are to be taken every night drinking after them three or four spoonfuls of compound briony water, during the continuance of this process.

7. If these pills should open the body use the following.

Take of castor, a dram: volatile salt of amber, half a dram; extract of rue, enough to make them into twenty four pills, three of which are to be taken every night, with three or four spoonfuls of the hysteric julep above directed.

Sixteen or eighteen drops of spirits of hartshorn, given often in any proper vehicle, do great service.

8. If the disease yields not to these medicines, let the following pills be used.

Take of the troches of myrrh, reduced to powder, a scruple; balsam of sulphur with oil of turpentine, four drops; dissolv'd gum ammoniac, enough to make them into four pills, to be taken morning and night, drinking after them four or five spoonfuls of the hysteric julep, with twelve drops of spirit of hartshorn therein.

The antiscorbutic electuary, and the distill'd water describ'd above in treating of the rheumatism *, are beneficial in these dis-

* Vid. pag. 252.

orders; and so is the strengthening electuary, with the addition of an ounce of the conserve of garden scurvy-grass, and six drams of the compound powder of wake-robin, drinking some of the above mention'd water after it †

9. But if this procedure fails, recourse must be had to the steel-waters, and these proving ineffectual, let the sulphurous kind be tried, such as those of *Bath*.

10. These rules are to be observed in drinking the steel-waters. (1.) If any bad symptom happens which may be ascrib'd to them, let them be left off till it vanishes. (2.) They must be continued six weeks at least, or rather two months. (3.) A little candid ginger, or some caraway comfits, should be taken between whiles to warm the stomach. (4.) Three of the hysteric pills, with four or five spoonfuls of the hysteric julep, may also be taken every evening during the first ten nights.

11. As to the *Bath* waters, let them be drank two days running, and used by the way of bath the third; continuing this method six weeks, or two months.

12. If the steel over heats the body during the course, let two quarts of the purging mineral waters be drank every fourth morning whilst it is continued; because these waters have the property of opening the body, without occasioning any disturbance, as the shop purgatives ordinarily do.

13. If the steel ruffles the constitution considerably, give a dose of *laudanum*, in a few spoonfuls of some hysteric water, every night for some time.

14. When the strength appears much impaired, from the long continuance of the disease, bleeding and purging are to be omitted, and immediate recourse had to steel.

15. But if the symptoms be moderate, it will be sufficient to bleed first, and afterwards purge three or four times, and then administer the hysteric pills morning and night for ten days.

16. In case of intolerable pain, violent vomiting and purging, *laudanum* must be exhibited, and afterwards the spirits strengthened. But if the strength will bear it, bleeding and purging must be previously used, especially in women of a robust make, and those of a sanguine constitution. In the weak, who have lately had a fit, it is enough to cleanse the stomach with a gallon of posset-drink, exhibiting immediately after the operation a large dose of *Venice* treacle, or orvietan, washing it down with a few drops of *laudanum* in a few spoonfuls of any spirituous liquor. But if the patient has vomited lately, and vomiting cannot be further encouraged with safety, such a quantity of *laudanum* must immediately

be

be given, as may be sufficient to conquer this symptom, repeating it after every vomiting, in a solid form especially, or in a very small proportion of some liquid: for instance, a few drops may be given in a spoonful of strong cinnamon water, the patient in the mean time indulging rest, and keeping her head still. After the symptom is conquer'd, let the laudanum be continued morning and night for a few days.

17. In the use of laudanum two things must be carefully observed. (1.) When once we begin with it after any evacuation, it must be given in a sufficiently large dose, and repeated often enough to conquer the symptom, only intermitting such a space of time between every dose, as may be sufficient to inform us what effect the last hath had before we give another. (2.) When the cure of a disease is attempted by laudanum, we must forbear evacuations, and not venture even upon the mildest glyster.

18. The frequent and long continued use of *Venice treacle* is very serviceable in this and many other diseases proceeding from a want of heat and concoction.

19. A few spoonfuls of an infusion made with the roots of gentian and angelica, the leaves of wormwood, and centory, orange-peel and other strengthening ingredients, in canary, taken thrice a-day, does great service, provided the patient be not of a thin and bilious constitution.

20. The bark is an excellent remedy, especially in hysteric spasms, a scruple of it being taken morning and night for some weeks.

21. In thin and bilious constitutions a milk diet is proper, especially in the hysteric colic, provided the inconveniencies wherewith it is attended in the beginning can be overcome, which are its coagulating in the stomach, and affording too little nourishment to keep up the strength.

22. But nothing does so effectually strengthen the blood, and raise the spirits, as riding much on horse-back almost every day for a considerable time; and riding in a coach is no contemptible remedy.

Of the depuratory or cleansing Fever of the Years
1661, 62, 63, 64.

1. **I**F the patient be young, take away some blood from the arm, and the same day, a few hours afterwards, or the following day, two hours after a light dinner, give a vomit of the antimonial wine, having three quarts or a gallon of posset-drink in readiness to take a draught of, immediately after every motion

motion upwards and downwards: and the operation being over, give the following, or a like opiate.

Take of the distill'd water of black cherries, an ounce and half; plague water, half an ounce; liquid laudanum, sixteen drops; syrup of clove-july-flowers, two drams; mix them for a draught.

It is not safe to give antimonial wine, even in the smallest dose, to children under fourteen.

2. From this time to the tenth or eleventh day, let the following glyster be injected every morning.

Take of the common decoction for glysters, or milk, a pint; coarse sugar and syrup of violets, each two ounces; mix them for a glyster.

3. And after this time suffer the patient to be costive, that the febrile matter may be sooner come to a concoction; for which purpose mild cordials, administered during the last days, are very beneficial.

Take of the compound powder of crabs claws, fourteen grains, the electuary of the egg, half a scruple; syrup of clove-july-flowers, enough to make them into a bolus, to be taken every eighth hour, with five or six spoonfuls of the following julep.

Take of milk-water, and black cherry water, each three ounces; plague water, and syrup of clove-july-flowers, each an ounce; mix all together for a julep; or any other similar medicines.

4. If this method be carefully followed, it will generally be found proper, from the laudable separation of the urine, and the manifest abatement of all the symptoms, to give the common purging draught towards the fifteenth day.

5. It sometimes happens, especially in the aged, after the fever is gone off, and purging hath been used, that the patient notwithstanding continues very weak, and sometimes by coughing, and other times by spitting, expectorates a copious tough phlegm, in which case, let him drink a glass of old malmsey, with a toast.

6. If an-iliac passion succeeds this fever, order a scruple of salt of wormwood to be taken morning and night in a spoonful of lemon-juice; and in the intervals let some spoonfuls of mint-water by itself be taken twice an hour. At the same time let a live puppy be apply'd to the belly, and two or three days after the vomiting
and

and purging are gone off, give a scruple of the greater pil. cochiaë, dissolved in mint-water: observing to keep the live puppy applied to the belly till this time.

7. To prevent a relapse let the use of the mint-water be persisted in a considerable time, and the belly preserved from cold by wearing a double flannel.

Of the pestilential Fevers of the Years 1665-66.

I. **A**FTER the sick person hath been blooded in bed, let him be well covered with clothes, and a piece of flannel applied to his forehead, and then, if there be no vomiting, give the following, or a like sudorific.

Take of *Venice* treacle, half a dram; the electuary of the egg, a scruple; compound powder of crabs claws, twelve grains; cochineal, eight grains; saffron, four grains; the juice of kermes, enough to make them into a bolus, to be taken every sixth hour, with six spoonfuls of the following julep after it.

Take of the distill'd water of holy thistle, and compound scordium water, each four ounces; treacle water, two ounces; syrup of clove-july-flowers, an ounce; mix them together for a julep.

2. If there be a vomiting, do not give the sudorific till by the weight of the clothes only the sweat begins to flow, the face being covered with part of the sheet in order to promote it.

3. When the sweat is begun, it is to be continued for the space of twenty four hours, by giving draughts of sage posset-drink, or mace ale, between whites; and the patient during the sweat may be refresh'd with restorative broths.

4. After the appearance of a swelling I have not ventur'd upon bleeding. The patient should keep his bed for twenty four hours after the sweat is gone off, and be cautious of catching cold; his linnen should be suffered to dry on his body, and his liquids taken warm; and he should also continue the use of sage posset drink: but next morning give my common purging potion.

5. The years 1667 and 1668, gave rise to a variolous fever, and the small-pox; the years 1669, 70, 71, and 72, to the dysenteric fever; and the years 1673, 74, and 75, to the comatous fever: but I do not treat of the cure of these several fevers, because I conceive they may be conquer'd by the method specified in treating of the fever of 1685, &c.*

* See p 495.

Of intermittent Fevers.

1. **T**HE fit begins with a chillness and shaking, which are soon follow'd by heat and then by sweat, which terminates the fever: tho' in the beginning of this disease, especially in autumn, a remission rather than an intermission is perceived. The cold and hot fit are both generally accompanied with a vomiting, great sickness, thirst, and a dry tongue. A swelling of the abdomen in children, and of the legs in grown persons, shews that the fever is going off; but a pain of the tonsils, a hoarseness, hollow eyes, and a hippocratic face foreshew death.

Take of the *Peruvian* bark in fine powder, an ounce; syrup of clove-july-flowers, or of red roses, enough to make it into an electuary, to be divided into twelve doses, one of which is to be taken every fourth hour, drinking after it a glass of any sort of wine; beginning immediately after the fit.

2. If the electuary runs off downwards, give ten drops of liquid laudanum in a glass of wine after each, or every other dose, as there is occasion. In order to prevent a return of the fever, especially in a quartan, this process is to be repeated every week for three weeks more.

3. If pills are better lik'd,

Take of the *Peruvian* bark finely powder'd, an ounce; syrup of clove-july-flowers, enough to make it into pills of a middling size, six whereof are to be taken every fourth hour.

If a tincture,

Take of the *Peruvian* bark grossly powder'd two ounces; *Rhenish* wine, two pints; digest them together without heat, and strain off the tincture, three ounces of which are to be taken every third or fourth hour.

4. If the fever be accompanied with an almost continual vomiting, so that the patient cannot get down the bark, give a scruple of salt of wormwood, in a spoonful of fresh lemon-juice, six or eight times in the space of two hours; and afterwards sixteen drops of liquid laudanum in a spoonful of cinnamon water without spirit: and as soon as the vomiting stops let the patient begin with the bark.

5. In vernal intermittents, an emetic seasonably administer'd, so long before the fit that the operation may be over before it comes,

comes, does sometimes cure: and sometimes a glyster injected daily on three or four of the intermediate days does the same.

6. The cure of this kind of fevers may likewise be attempted in the following manner.

Take of *Virginian* snake-weed, in fine powder, fifteen grains; white wine, three ounces; mix them together for a draught.

Let the patient take it two hours before the fit comes, and being well covered with clothes, sweat three or four hours afterwards; and let it be repeated twice in the same manner.

7. In case of great weakness, from the redoubling of the fits.

Take of the conserves of borage and bugloss, each an ounce; conserve of rosemary, half an ounce; candied citron peel, candied nutmeg, and *Venice* treacle, each three drams; the confection of alchermes, two drams; mix them together, and make an electuary, of which the quantity of a hazelnut is to be taken morning and night, drinking after each dose a few spoonfuls of any simple plague water, sweetened with sugar, and forbidding the use of glysters during this process.

8. If a dropsy happens in the declension of the disease, the fever not being yet remov'd, the cure must not be attempted by purgatives, but by infusions in wine with horse-radish-root, the tops of wormwood, the lesser centory, juniper berries, and broom ashes, &c. but after the fever is gone off, by purgatives and aperients.

9. In children seiz'd with this disease proceed thus:

Take of the distill'd waters of black cherries, and *Rhenish* wine, each two ounces; the *Peruvian* bark finely powder'd, three drams; syrup of clove-july-flowers, an ounce; mix them for a julep, a spoonful or two of which, according to the age of the child, is to be taken every fourth hour, till the fits are gone off, dropping into every other dose, in case of a looseness, one or two drops of liquid laudanum.

Of the stationary Fever from the Year 1685 to 1690.

I. **T**HIS fever was attended with the following symptoms. (1.) Heat and cold succeeding each other, (2.) a pain of the head and limbs, (3.) the pulse in the mean time differing little from a healthy state, (4.) a cough sometimes, (5.) a pain in the neck and jaws, (6.) an increase of the fever towards night, (7.) restlessness, (8.) thirst, (9.) the tongue either moist and quite cover'd

cover'd with a white rough skin, or dry and brown in the middle, and white round the edges, (10.) lying always in bed occasions a coma and a delirium, (11.) and the effect of a hot regimen are petechiæ, purple spots, miliary eruptions redder than the measles, an irregular pulse, startings of the tendons, and at length death. (12.) Symptomatic sweats happen in the beginning, which being promoted by art, appear clammy in the head, and derive the morbid matter to the head, or the limbs.

2. Take away ten ounces of blood from the arm, and repeat the bleeding, if a difficulty of breathing, an acute pain of the head in coughing, and other signs of a bastard peripneumony appear. And in this case bleeding and purging must be repeated till the patient recovers.

3 At night apply a blister, and next morning prescribe a laxative draught, which must be repeated every other day, to a third time, and a composing draught given in the evening after the operation.

Take of the distill'd water of cowslips, three ounces; syrup of white poppies an ounce; fresh lemon-juice, two spoonfuls; mix them for a draught.

4. The aphthæ and hiccup which succeed spontaneously after the cure of the fever, ordinarily go off in the same manner; but if they continue long, are easily removed with an ounce of the *Peruvian* bark, made into an electuary, or pills, with a sufficient quantity of the syrup of red poppies, a dram whereof is to be taken twice or thrice a day, drinking after each dose a draught of whey. This medicine will certainly answer the end, if the virtues of it be not destroyed by lying constantly in bed.

5. On the intermediate days of purging, direct the following.

Take of the conserves of wood-sorrel and hips, each an ounce; the conserve of barberries, half an ounce; cream of tartar, a dram; syrup of lemons enough to make them into an electuary, of which the quantity of a nutmeg is to be taken thrice a-day, with six spoonfuls of the following julep.

Take of the distill'd waters of purslain, lettuce and cowslips, each three ounces; lemon juice, an ounce and half; syrup of violets, an ounce; mix them together for a julep.

Or,

Take of spring water, a pint; rose water, lemon juice, and fine sugar, each four ounces; boil them together over a slow fire, till the scum rises, which must be carefully taken off. Three ounces of it may be taken at pleasure.

The

The following gargarism is likewise proper.

Take of verjuice, half a pint; syrup of rasp-berries, an ounce; mix them for a gargarism.

6. If the stomach be so much disorder'd by the fever, that a draught cannot be kept down, give two scruples of the greater pil. cochiaë, and in this case an opiate is also to be exhibited; for instance, a grain and half of laudanum, with the same quantity of mastich, or eighteen drops of liquid laudanum, in an ounce of small cinnamon water.

7. The white decoction made with an ounce of burnt hartshorn, boil'd in three pints of spring water, and sweetened with fine sugar, may serve for common drink; as may small-beer likewise at pleasure.

8. When the patient has been purged twice, he may be allow'd to eat chicken, and after the last purgation, provided the fever be a little abated, four spoonfuls of canary may be given him in the morning, and afternoon, and at night also for some days.

9. Nothing is more serviceable in a delirium or coma than shaving the head, without applying a plaister, but only wearing a cap.

10. If, as it sometimes happens in hysterick women, the fever continues after this repeated bleeding and purging, then, provided there be no signs of a peripneumony and inflammation about the vital parts, let an opiate be order'd every night, and hysterick medicines twice or thrice a day.

How Children are to be treated in the stationary Fever.

1. **A** P P L Y two leeches behind each ear, and a blister to the neck, and purge them with an infusion of rhubarb in beer*.

2. If the fever seem to intermit after purging, exhibit the julep with the *Peruvian* bark, above set down, in treating of intermitting fevers †.

Of the scarlet Fever.

1. **T** H E scarlet fever chiefly attacks children towards the close of summer: they are chill and shake in the beginning, but not very sick, the skin is cover'd with small red spots, which are more numerous, large, and redder than the measles, and continue two or three days, after which the scarf-skin falling off the true skin appears mark'd with branny scales.

Take

* p. 513. 605.

† p. 558.

Take of burnt hartshorn finely powder'd, and compound powder of crab's claws, each half a dram; cochineal, two grains; fine sugar a dram; make them into a fine powder, to be divided into twelve parts, one of which is to be taken every six hours, drinking after it two or three spoonfuls of the following julep.

Take of black cherry and milk water, each three ounces; syrup of citron-juice, one ounce; mix them for a julep.

2. Apply a blister, likewise, to the neck, and give an opiate of the syrup of white poppies every night; and the symptoms being gone off, exhibit a purge.

Of the Pleurisy.

I. **T**HIS disease prevails between the spring and summer: it begins (1.) with a chillness and shaking, which are soon accompanied with (2.) heat, thirst, restlessness, and the other symptoms of a fever; (3.) in a few hours the patient feels a violent pain in one side, near the ribs, which sometimes extends to the *scapula*, sometimes to the *spina dorsa*, and sometimes to the fore-part of the breast; (4.) he has likewise a violent cough; (5.) the matter expectorated at the beginning of the disease, is small in quantity, thin, and frequently streak'd with blood; but in the course thereof it is more copious, and concocted, and also mixed with blood; (6.) the fever keeps pace with the cough, the spitting of blood, and the pain, and abates gradually, according as expectoration becomes easier; (7.) the body is sometimes costive, and sometimes too open; (8.) the blood, when cold, looks like melted tallow.

2. Take away ten ounces of blood from the arm of the affected side.

Take of the distill'd water of red poppies, four ounces; sal prunella, a dram; syrup of violets, an ounce; mix them for a draught, to be taken immediately after the first bleeding.

Take five sweet almonds blanch'd; melon and pumpkin seeds, of each half an ounce; the seeds of white poppies, three drams; barley-water, a pint and half; rose-water, two drams; sugar-candy, enough to sweeten it: make the whole into an emulsion, four ounces of which should be taken every fourth hour.

Take of the pectoral decoction, a quart; syrup of violets, and maiden-hair, each an ounce and half; mix them for an aposem, of which half a pint is to be taken three times a day.

Take

Take of oil of sweet almonds, two ounces; syrup of violets and maiden-hair, each an ounce; sugar-candy, enough to make them into a linctus.

Oil of sweet almonds, by itself, or fresh drawn linseed oil, may be also given.

Take of the oils of sweet almonds and lillies and marsh-mallow ointment, each an ounce; mix them together into a liniment, with which anoint the affected side morning and night, applying a cabbage leaf thereto.

3. The bleeding is to be repeated in the same quantity, three days running, if the pain and difficulty of breathing require it.

Of the bastard Peripneumony.

1. **T**HIS distemper arises towards the beginning, and frequently at the close of winter. At the beginning (1.) the patient is hot and cold by turns; (2.) is giddy upon the least motion; (3.) his eyes and cheeks are red and inflamed; (4.) he has a cough, and in coughing feels a violent pain of the head; (5.) he vomits up all liquids; (6.) the urine is turbid, and very high colour'd; (7.) the blood taken away resembles pleuritic blood; (8.) he breathes quick, and with difficulty, and has a pain in his breast. This disease is distinguish'd from a dry asthma, as being accompanied with evident signs of a fever, which never appear in that distemper, tho' they are much more gentle and latent than in the true peripneumony.

2. Let ten ounces of blood be taken away from the right arm, and the next day give this purging draught.

Take of the pulp of cassia, fresh extracted, an ounce; liquorice root, two drams; four fat figs; the leaves of senna, two drams and a half; troches of agaric, a dram; boil them together in a sufficient quantity of spring-water, to four ounces; in the strained liquor dissolve an ounce of manna, and half an ounce of the solutive syrup of roses; mix the whole for a draught.

3. But if the patient cannot take a draught, give him two scruples of the greater pil. cochiae, at four in the morning.

4. Let the bleeding be repeated the next day in the same quantity, and the day after give another purgative, which is to be repeated every other day, or seldom, according to the strength of the patient. And further, if the symptoms do not go off, bleeding
mult

must be again repeated once, twice, or oftner, interposing some days between each bleeding, as there is occasion; but a second bleeding will mostly suffice. During this course, the patient should use the pectoral decoction, the linctus, and oil of sweet almonds, prescrib'd above, in treating of the pleurisy, especially on the intermediate days of purgation.

Of the Rheumatism.

1. **T**HIS disease begins (1.) with a chillness and shaking, with the other signs of a fever; (2.) in a day or two, and sometimes sooner, a violent pain seizes sometimes one limb, and sometimes another, but especially the wrists, shoulders, and knees, leaving a redness and swelling in the part last affected; (3.) the fever goes off by degrees, whilst the pain continues, and sometimes increases. A rheumatic lumbago is accompanied with a severe fixt pain in the region of the loins, resembling a fit of the stone in every thing but a tendency to vomit; the patient cannot lie down in bed, but either gets up, or sits upright therein, and is perpetually moving his body backwards and forwards: the blood is fizy, as in a pleurisy.

2. Let ten ounces of blood be taken away from the arm of the affected side.

Take of the distill'd waters of water-lilly, purslain, and lettuce, each four ounces; syrup of lemons, an ounce and half; syrup of violets, an ounce; mix them for a julep, some of which may be drank at pleasure.

3. Emulsions of the four greater cold seeds should be prescribed, and a cataplasm, made of the crumbs of white bread and milk milk tinged with saffron, applied to the part affected.

4. The next day take away the same quantity of blood, and bleed again in a day or two, and repeat the operation a fourth time, or oftner, if there be occasion, observing after the second time to repeat the bleeding at greater intervals.

5. On the intermediate days of bleeding, inject a glyster of milk and sugar between times, or the following.

Take of the common decoction for glysters, a pint; syrup of violets and coarse sugar, each two ounces; mix them for a glyster.

6. If the patient be too weak to bear repeated bleeding, the cure, after the second or third bleeding, must be attempted in the following manner.

7. Exhibit my common purging potion every other day, till the disease goes off, and in the evening, after the operation, an opiate of syrup of white poppies.

8. If the distemper does not yield to these remedies, and the patient is too weak to bear any evacuations, give him the anti-scorbutic electuary, and distilled water, described in treating of the scurvy, which are also proper in a scorbutic rheumatism.*

9. In young persons, and such as live temperately, and drink wine with moderation, the rheumatism may be as successfully cured by a very cooling and moderately nourishing diet, as by repeated bleeding, which they cannot so well bear.

10. For instance; let the patient live upon whey only for four days running, and afterwards, besides the whey, he may eat a piece of white bread once a day, instead of a dinner, till he recovers; only towards the declension of the disease a piece of bread may likewise be allowed him at supper. When the symptoms are gone off, his diet may be boil'd chicken, and other food of easy digestion; but every third day he must live only upon whey, till he is perfectly recovered.

Of the erysipelatous Fever.

1. **I**N this distemper (1.) all the parts of the body, but especially the face, swell, and are painful and red; (2.) small pimples appear, which sometimes rise up into blisters, and spread over the forehead and head; (3.) the eyes are buried under the swelling; (4.) a chillness, shivering, and other signs of a fever accompany these symptoms. In the other kind of this disorder, which is occasioned by drinking, there is (1.) a slight fever; (2.) attended with pimples, not unlike those caused by the stinging of nettles, which sometimes rise up into blisters, and soon after vanish, and lie hid under the skin, where they produce a very troublesome itching, and, upon scratching, come out again. There is also another kind of eruption, which generally appears in the breast, being a broad spot with yellow scales, which scarce rises higher than the skin, and whilst it keeps out the patient is not at all indisposed, but when it strikes in, a slight sickness succeeds, and the urine is turbid and yellow: it yields to the same remedies as the stubborn itch, only wine and flesh of easy digestion may be used.

2. Take away nine or ten ounces of blood from the arm, and next day exhibit my common purging notion.

Take

* *Vid. pag. 252.*

Take of the roots of marshmallows and lillies, each an ounce; the leaves of mallows, elder, and mullein, the flowers of camomile and melilot, and the tops of St. John's wort, and the lesser centory, each one handful; linseed and fenugreek seed, each half an ounce; boil them together in a sufficient quantity of water to leave three pints, and to every pint of the strained liquor, when 'tis used, add two ounces of spirit of wine.

Let the part affected be fomented twice a day with flannels dipp'd in this fomentation, first made hot, and wrung dry; and, after fomenting, bathe it with the following mixture.

Take of spirit of wine, half a pint; Venice treacle, two ounces; long pepper and cloves, reduc'd to powder, each two drams: mix them together: cover the part affected with brown paper moistened with this mixture.

3. If the first bleeding does not cure the disorder, have recourse to the operation again, and this failing, repeat it twice more, interposing a day between each bleeding.

4. On the intermediate days of bleeding, order a glyster of milk and syrurp of violets, and a cooling emulsion and julep.

Of the stubborn itch, and other inveterate eruptions of the skin, which yield not to bleeding and purging.

1. **T**AKE of Venice treacle half a dram; electuary of the egg, a scruple; Virginian snake-root, in fine powder, fifteen grains; oriental bezoar, five grains; syrurp of candied citron, enough to make them into a bolus, to be taken every night, at bed-time, for the space of one and twenty days, drinking after it six spoonfuls of the following julep.

Take of the distill'd water of holy thistle, six ounces; plague and treacle waters, each two ounces; syrurp of clove-july-flowers, an ounce; mix them for a julep.

2. The patient should drink half a pint of warm posset drink every morning, and sweat an hour after it.

3. This course being over, if the eruption still continue, let the parts affected be anointed with the following liniment.

Take of the ointment of sharp-pointed dock, two ounces; pomatum, an ounce; flower of sulphur, three drams; oil of rhodium, half a scruple; mix them together for a liniment.

4. But

4. But these medicines must not be used, before the patient hath been properly blooded and purged.

Of the Quinsy.

I. **T**HE quinsy commonly comes between spring and summer; the fever accompanying it, is soon succeeded by a pain and inflammation of the fauces, uvula, tonsillæ, and larynx; these parts being so much swell'd as to hinder deglutition and respiration.

2. Bleed plentifully in the arm, and let the inflamed parts be besmear'd with honey of roses, well acidulated with spirit of vitriol, or spirit of sulphur: and soon after let the following gargarism be used, not in the common way, but held quietly in the mouth, till it grows warm, and then spit out; and repeat it in this manner between times.

Take of the distill'd waters of plantain, red roses and frogspawn, of each four ounces; three whites of eggs, beat to a liquor; fine sugar, three drams; mix them together for a gargarism.

And let the cooling emulsion, prescrib'd in the cure of the pleurisy, be daily used.

3. Next morning, unless the fever and difficulty of swallowing be abated, bleeding must be repeated, and purging deferr'd till the subsequent day, otherwise a gentle purge may be given.

4. If the disorder still continues, which very rarely happens, let bleeding and purging be further repeated, and a large strong blistering plaister applied between the shoulders, after the first bleeding.

5. On the intermediate days of purging, inject a cooling and emollient glisten in the morning: the patient must use a sparing diet, and sit up a few hours every day.

6. In all these fevers, which I call *intercurrent*, and in those likewise which I term *stationary*, it must be carefully observed, that the patient should sit up a great part of the day, and live upon barley-gruel and water-gruel, and the like kind of diet, and use small-beer, and milk and water for his common drink.

Of the Measles.

1. **C**hildren are chiefly subject to this disease; which hath the following symptoms. (1.) The first day they are seized with a chilness and shivering, and heat and cold succeeding by turns; (2.) the second day a perfect fever comes on, accompanied with (3.) great sickness, (4.) thirst, (5.) loss of appetite, (6.) a white, but not a dry tongue, (7.) a slight cough, (8.) heaviness of the head and eyes, with a continual drowsiness, (9.) a constant distillation from the nose and eyes, and an effusion of tears, which is the most certain sign of the measles. (10.) These symptoms are succeeded by a sneezing, a swelling of the eye-lids, immediately preceding the eruption, a vomiting and a looseness, attended with green stools, especially in children whilst they are breeding teeth. The symptoms increase till the fourth day, at which time, and sometimes on the fifth day, little red spots, like flea-bites, appear in the forehead and face, which growing more numerous and large, run together, and mark the face with large red spots, which are composed of small red pimples, rising a little higher than the skin, and may be felt by pressing them lightly with the finger, but can scarce be seen. From the face, where only they first shew themselves, these spots extend to the breast and belly, and then to the thighs and legs; but in these parts they are large and red, and do not rise above the surface of the skin.

(2.) The symptoms do not abate upon the eruption in this disease, as in the small-pox, the vomiting indeed does not continue afterwards, but the fever, cough, and difficulty of breathing increase, and the distillation from the eyes, the drowsiness and loss of appetite remain. On the sixth day, or about that time, the forehead and face grow rough, the eruptions begin to dry, and the skin separates; but in the other parts of the body the spots appear very large and red. About the eighth day they vanish in the face, and scarce appear in the rest of the body. On the ninth day they disappear entirely, and the face, limbs, and sometimes the whole body seem cover'd with branny scales; but the cough, fever, and difficulty of breathing, grow worse. A hot regimen in grown persons makes the eruptions turn livid at first, and then black.

Take of the pectoral decoction, a pint and half; syrup of violets and maiden-hair, each an ounce and half; mix them together for an apozem, and let three or four ounces of it be taken three or four times a day.

Take of oil of sweet almonds, two ounces; syrup of violets and maiden-hair, each an ounce; white sugar-candy, enough to make them into a linctus, to be taken often in a small quantity, especially when the cough is troublesome.

Take of black cherry water, three ounces; syrup of white poppies, an ounce; mix them together, for a draught, to be taken every night the distemper throughout; lessening or increasing the dose, according to the age of the patient.

3. The patient should lie in bed for the first two days after the eruption.

4. If a fever, a difficulty of breathing, and other symptoms, resembling a peripneumony, succeed after the measles are gone off, bleed plentifully in the arm, and repeat the operation a second or third time, as there is occasion, interposing a proper interval between each: and continue the use of the pectoral decoction and linctus above prescribed, together with the oil of sweet almonds by itself. About the twelfth day from the beginning of the distemper, give a gentle purge.

5. The looseness succeeding the measles is cur'd by bleeding.

Of the Small-Pox.

1. **T**HE small-pox is of two kinds; either distinct, or confluent. The distinct kind begins with (1.) chills and shivering, (2.) great heat, (3.) a violent pain in the head and back, (4.) vomiting, (5.) a considerable tendency to sweat in grown persons, whence it may be conjectured, that the small-pox will not prove of the confluent kind; (6.) a pain under the *scrobiculum cordis* upon pressing it with the hand, (7.) drowsiness and *stupor* sometimes, (8.) epileptic convulsions, especially in children, which happening after dentition, one may foretel, that the small-pox is just approaching; so that for instance, supposing a child be seiz'd with a convulsive fit over night, a kindly small-pox will appear next morning, and very rarely of the confluent sort.

2. On the fourth day, inclusive from the beginning of the distemper, sometimes later, but seldom sooner, the eruptions come out, at which time the symptoms abate, or go off entirely. At first reddish pustules, as large as the head of a small pin, appear scatter'd up and down in the face, neck, breast, and the whole

body, and at the same time a pain seizes the fauces, and increases proportionably as the eruptions fill.

3. About the eighth day, from the first seizure, the spaces between the pustules, that appear'd white before, begin to grow red, swell, and are painful; the eye-lids are distended so as to close the eyes, and resemble an inflated bladder. Next after the face, the hands, and fingers swell, and the eruptions on the face, that till this day were smooth and red, now grow rough and whitish (which is the first sign of suppuration) and discharge a yellow matter, in colour not unlike a honey-comb. The inflammation of the face and hands, being in the mean time come to its height, renders the spaces between the eruptions of a florid red colour, resembling that of damask roses: and the milder the small-pox is, the nearer do the eruptions and their intermediate spaces approach this colour. The pustules on the face grow every day rougher and yellower, as they suppurate, while those of the hands and other parts appear smoother and whiter.

4. On the eleventh day, the swelling and inflammation of the face vanish, and the eruptions being come to their due maturity and size, equalling that of a large pea, dry and scale off. On the fourteenth or fifteenth day they disappear entirely, but those of the hands being more stubborn, and yet white and fresh, continue a day or two longer, after which they burst; and those of the face and body scale off, and in the face are succeeded by pits or pock-marks.

5. The patient is either quite costive, or hath few stools throughout the whole course of the disease. Most of those whom this distemper kills, die on the eighth day in the distinct kind, and on the eleventh in the confluent: for when sweat is promoted in the distinct sort by cordials and a hot regimen, the face, which on the eighth day ought to swell, and be inflam'd in the spaces between the eruptions, on the contrary appear whitish and sunk, whilst the pustules notwithstanding continue red and plump, even after the death of the patient. The sweat which flowed freely to this day ceases suddenly, and the patient in the mean time is seiz'd with a delirium, restlessness, sickness, and frequency of making urine in small quantities, and in a few hours expires.

6. The confluent small-pox is accompanied with the same symptoms, but they are more violent: the fever, for example, restlessness, sickness, and vomiting, &c. rage more severely, but there is less tendency to sweat than in the distinct kind. Sometimes a looseness precedes, and lasts a day or two after the eruption, which it scarce ever does in the distinct kind. The eruption, in this sort of small-pox, happens on the third day, or earlier, but seldom

later, and the sooner the pustules come out, the more they run together. Sometimes, however, the eruption is retarded to the fourth or fifth day by some violent symptom; as, for instance, (1.) a sharp pain in the loins, resembling a fit of the stone, (2.) in the side, like a pleurisy, (3.) in the limbs, like a rheumatism, or, (4.) in the stomach, accompanied with great sickness and vomiting. The confluent sort differs from the distinct in this, that the symptoms do not abate immediately after the eruption, but the fever and its concomitants afflict the patient for several days afterwards. Sometimes the pustules come out like an erysipelas, and sometimes like the measles; but they may readily be known from both by the time of the eruption. In the progress of the disease, the pustules do not come to any considerable bigness, but run together in the face, and cover it like a red bladder, and make it swell sooner than in the distinct sort; at last they appear like a white pellicle, closely adhering to the face, and rising a little above the skin.

7. After the eighth day this pellicle grows every day rougher, and inclines to a brown colour; the skin is tenderer, and in the worst sort of the confluent small-pox falls off in large scales, but not till after the twentieth day. 'Tis worth observing, mean time, that the nearer the pustules, as they suppurate, incline to a dark brown colour, so much the worse they are, and the longer in falling off: but the yellower they are, the less they run together, and the sooner they vanish.

8. When the pellicle first falls off, the face appears smooth, but it is soon succeeded by branny scales, of a very corrosive nature, which leave large pits and frequently scars behind them. Sometimes the skin of the back and shoulders scale off. The dangerousness of the disease is to be estimated by the number of the eruptions on the face only. Those of the hands and feet are larger than those of the other parts, and the nearer they approach the trunk the less they are.

9. In grown persons a salivation, and in children a looseness (tho' not so certainly) accompanies the confluent kind. The salivation sometimes begins with the eruption, and sometimes not till two or three days afterwards. At first the matter is thin, but on the eleventh day it grows more viscous, and is rais'd with great difficulty. The patient is thirsty, and is seized with a hoarseness, great stupor and drowsiness, coughs between whiles as he drinks, and the liquor flies out at the nostrils. At this time the salivation generally stops, which, if it were not supplied by the swelling of the face, and the swelling of the hands, now manifestly beginning, and lasting longer than the former, would immedi-

ately destroy the patient. For tho' the swelling of the face, according to the nature of the disease, ought to abate a little on this day, yet it should not sink entirely till a day or two afterwards. The looseness does not attack children so soon as the salivation does grown persons.

10. In both the kinds of the small-pox, the fever rages from the beginning of the illness to the time of the eruption, after which it abates till the suppuration begins, which being finished, it goes off. Wrong management occasions abundance of irregular symptoms, as a sinking of the pustules, a delirium, or coma, purple spots between the eruptions, with small black spots on the top of them, depressed in the middle; bloody urine, and spitting of blood in the beginning of the distemper, and a suppression of urine.

11. The separation is finish'd with a febrile ebullition, in the first three or four days, and the expulsion is form'd during the rest of the time, by means of small abscesses in the flesh.

12. In the mildest sort of the confluent small-pox, the eleventh day, inclusive from the beginning of the illness, is the most dangerous, the fourteenth in the middle sort, the seventeenth day in the worst kind: but sometimes the patient does not die before the twentieth day, which however very rarely happens. Moreover a very troublesome fit of restlessness comes on every day towards evening, from the eleventh to the seventeenth day.

13. Take away nine or ten ounces of blood upon any of the first three days, and afterwards give a vomit of an ounce, or an ounce and half of antimonial wine.

14. During the first stage of the distemper, that is, till the eruption be over, let the blood be diluted by drinking small beer often.

15. As soon as all the pustules are come out, which ordinarily happens on the sixth day from the beginning of the illness, give an ounce of the syrup of white poppies every evening till the tenth day; and that night, if the small pox be of the confluent kind, increase the dose to an ounce and half, and from this time forward give an ounce every morning, and an ounce and half at night, till the patient recovers.

16. If the syrup of poppies, does not agree with the patient, liquid laudanum may be exhibited in its stead; for instance, eighteen drops of it for an ounce of the syrup, and twenty-five drops for an ounce and half; observing, in the mean time, if the opiate fails to quiet the tumult (as it frequently does at the declension of the most confluent small-pox) to give it every eighth hour, or oftner, if there be occasion.

17. But in the distinct small-pox the opiate need only be exhibited every night, after the eruption is over, and in a smaller dose likewise.

18. But of whatever kind the small-pox be, and at whatever time of the disease it happens, if a *delirium* comes on, 'tis indispensably necessary to check the irregular motion of the spirits; and therefore, if the first opiate does not answer the end, it must be repeated till the disturbance be quieted, interposing such a space of time between every dose, that we may be assured whether the last hath been effectual for that purpose, before we exhibit another.

19. If a total suppression of urine happens, the patient must be taken out of bed, and walk a few turns about his room.

20. If the heat renders the *saliva* so viscous that it can't be got up, the throat must be frequently syring'd with a gargarism of small-beer or barley water with honey of roses; or the following may be used for this purpose.

Take of elm bark six drams; liquorice root, half an ounce; ston'd raisins, twenty; red roses, two pugils; boil them together in a sufficient quantity of water to a pint and half; in the strain'd liquor dissolve simple oxymel and honey of roses, of each two ounces; mix them for a gargarism.

21. If there be occasion for a blistering plaister, apply a large strong one to the neck, on the evening preceeding the great crisis of the disease, and immediately afterwards exhibit the opiate. Garlic may also be applied to the bottom of the feet, from the eighth day to the end of the distemper, and renew'd every day.

22. If a child be seiz'd on a sudden with convulsions after dentition, it may be consider'd that in all probability they proceed from the effort of nature to expel the small-pox, scarlet-fever, or the measles to the outward parts; and therefore let a blistering plaister be applied to the neck, and the child immediately put to bed, and a cordial also exhibited, mix them with a small quantity of some opiate; for instance, five drops of liquid laudanum, in a spoonful of plague-water, to a child of three years of age.

23. If on the eleventh, or any succeeding day, the second fever, attended with restlessness, and the other symptoms of this kind, rises so high that it cannot be check'd by opiates, tho' repeated with the greatest frequency, and even endangers life; in this case let a sufficient large quantity of blood, for instance, twelve ounces, or thereabouts, be immediately taken away, and the operation may be repeated a second or third time on the subsequent days, if the abovemention'd symptoms require it, but

not otherwise. A lenient purgative may also be order'd on the thirteenth day, but not sooner, or any of the following days, provided bleeding hath been previously used; for instance, an ounce of lenitive electuary, dissolv'd in four ounces of succory or milk water. But neither bleeding or purging obstruct the use of opiates, which notwithstanding these evacuations, ought to be given in a large dose, and repeated according to the exigency of the case; for we are always to have recourse to opiates in this disease.

24. When the pustules are quite dry, the face may be anointed with a liniment, made of equal parts of oil of sweet almonds and pomatum, for two days, but not longer.

25. On the twenty first day from the beginning of the distemper, take away some blood from the arm, and the next day give a purge, and repeat it every other day, to a fourth time.

26. As to the regimen, the patient should sit up in the day time till the sixth day, and afterwards keep his bed constantly till the seventeenth, but not have more cloaths laid on him than he was accusom'd to when in health.

27. His diet should be water-gruel, barley-gruel, roast apples and small-beer; and after the eleventh day he may drink four or five spoonfuls of canary, twice a day if he likes it.

28. If the swelling of the legs yields not to the above mention'd evacuations, it may easily be remov'd with a fomentation, made of the leaves of mallows, mullein, elder, and laurel, and the flowers of camomile and melilot, boil'd in milk.

29. If a spitting of blood, or bloody-urine happen in the first stage in the disease, let the powder and julep, set down in my dissertation in the second fever in the confluent small pox *, be carefully exhibited every sixth hour, till these symptoms entirely disappear: in this case opiates also may be given freely.

Of St Vitus's Dance.

I. **T**His disorder is a kind of convulsion, which seizes children of both sexes, from the tenth to the fourteenth year: it manifests itself by a halting, or unsteadiness of one of the legs, which the patient draws after him like an idiot. If the hand of the same side be applied to the breast, or any other part of the body, the child can't keep it a moment in the same posture, but it will be drawn into a different one by a convulsion, notwithstanding all his efforts to the contrary. Before a child who hath this disorder can get a glass or cup to his mouth, he useth abundance of odd gestures; for he does not bring it in a strait line thereto, but his hand

* See p. 581.

hand being drawn sideways by the spasm, he moves it backwards and forwards, till at length the glass accidentally coming nearer his lips, he throws the liquor hastily into his mouth, and swallows it greedily, as if he meant to divert the spectators.

2. Take away eight ounces of blood from the arm, or a quantity best adapted to the age of the patient.

3. The next day give him one half, or a little more of my common purging potion, according to his age, and at night the following draught.

Take of black cherry water, an ounce; compound piony water, three drams; *Venice* treacle, a scruple; liquid laudanum, eight drops; mix them together for a draught.

Repeat the purgative thrice, once every other day, and give an opiate at night, after the operation.

4. Afterwards bleed again and purge, as before, and in this manner let bleeding and purging be repeated a third or fourth time; allowing such intervals between the alternate evacuations, as to prevent all dangers therefrom.

5. On the intermediate days of purging, let the following remedies be used.

Take of the conserves of *Roman* wormwood and orange peel, each an ounce; the conserve of rosemary, half an ounce; old *Venice* treacle, and candied nutmegs, each three drams; candied ginger, a dram; syrup of citron-juice, enough to make them into an electuary, of which let the quantity of a nutmeg be taken every morning, and at five in the afternoon, drinking after it five spoonfuls of the following wine.

Take of the roots of piony, elecampane, masterwort and angelica, each an ounce; the leaves of rue, sage, betony, germander, white horehound, and the tops of the lesser centaury, each a handful; juniper berries, six drams; the peel of two oranges: these ingredients being sliced, cut, and bruised as they require, let them infuse, without heat, in six pints of canary; strain it off only as it is us'd.

Take of rue water, four ounces; compound piony and briony water, each an ounce; syrup of piony, six drams; mix them together for a julep, four spoonfuls of which must be taken every night at bed time, dropping into it eight drops of spirit of hartshorn.

6. Apply a plaister spread on leather, of the plaister of gum caranna to the soles of the feet.

7. To prevent a relapse, open a vein, and purge for some days, about the same season of the following year, wherein the disease first appear'd.

8. It seems probable to me that this method might suit the falling sickness in grown persons, which, however, I have not yet experienced. But as *St Vitus's* dance happens only to children. if this method be used in the epilepsy in grown persons, more blood must be taken away, and the purgative made stronger.

Of the Apoplexy.

1. **A**N apoplexy is a total deprivation of sense, and motion, excepting that of respiration, which is performed with difficulty and snoring.

2. Take away twelve ounces of blood immediately from the arm, and afterwards eight from the jugular, and presently after exhibit a vomit of an ounce and a half, or two ounces of the antimonial wine.

3. Apply a large strong blistering plaister between the shoulders, and during this procedure, let the patient sit upright in bed, and a vial of highly rectified spirit of sal-ammoniac be held to his nose.

4. As soon as the vomit has done working, give three or four spoonfuls of the following julep, repeating the dose at proper intervals.

Take of rue water, four ounces; compound briony and piony water, of each an ounce; spirit of hartshorn, twenty drops; fine sugar, enough to sweeten it; mix the whole for a julep.

Or a spoonful of the compound spirit of lavender may be given by itself twice or thrice during the fit, at an hour or half an hour's distance between every dose.

5. Care must be had not to administer too hot cordials, nor to give them too often, as is commonly done; for whatever specific virtue they may seem to be possessed of, they do more mischief than good, as being apt to dissolve the juices, and consequently to increase the disease: which inconvenience is likewise occasioned by keeping the patient too warm.

6. After the fit is over, let the following medicines be used to prevent a relapse. Give two scruples of the greater pil. cochizæ, made into pills at four o'clock in the morning, so that the patient may sleep upon them, and repeat them every third day to a sixth time.

Take of the conserves of the flowers of sage and rosemary, each an ounce; the conserve of orange peel, six drams; candied

candied nutmegs and candied ginger, each half an ounce; old *Venice* treacle, two drams; the powders for the electuaries of diambra and sweet musk, each a dram; syrup of candied citron, a sufficient quantity to make them into an electuary; of which let the quantity of a chesnut be taken morning and evening, drinking after it two spoonfuls of compound piony water.

Take of ambergrease, half a dram; the distill'd oils of aniseed, cinnamon and nutmegs, each two drops; oil of cloves, one drop; fine sugar dissolv'd in the distill'd water of orange flowers) four ounces; make them into troches, according to the rules of art; one of which may be taken at pleasure.

7. The patient should refrain from all kinds of spirituous liquors, and live upon water-gruel, barley-gruel, and chicken-broth, and sometimes also upon chicken, lamb, and the like food of easy digestion, especially on those days he purges.

Of an Inflammation of the Eyes.

1. **T**HIS disorder manifests itself by the inflammation of the part.

2. Take away ten ounces of blood from the arm, and next day exhibit my common purging potion, which must be repeated a third time, interposing two days between every purge; and at night, after the operation is over, give a quieting draught of an ounce of syrup of white poppies.

3. On the intermediate days of purging, let him take four ounces of an emulsion made with the greater cold seeds, and white poppy seeds, three or four times a day.

4. After the first purge, let the following eye-water be used.

Take of the distill'd waters of plantain, roses, and frog-spawn, each an ounce; prepar'd tutty, reduc'd to powder, a dram; mix them for an eye-water, of which let a few drops be drop'd into the eyes twice every day.

5. If the disorder yields not to these remedies, let bleeding be repeated once or twice more (especially if the blood resembles that taken away in a pleurisy) and purging likewise.

6. The patient should forbear wine, and all spirituous liquors, and all kind of food that is salt and hard of digestion, and on the intermediate days of purging, drink milk boil'd with water.

7. It must be observed, that bleeding and purging, tho' repeated with the greatest frequency, often prove ineffectual in an inflammation.

inflammation of the eyes, in which case an ounce of the syrup of white poppies, administer'd every night, perfects the cure without any other helps from medicine.

Of the bearing down of the Womb.

TAKE of oak-bark, two ounces; boil it in two quarts of spring-water to one, adding towards the end of the operation, pomegranate bark, bruised, red rose leaves and balaustines, of each two handfuls; and lastly, half a pint of red wine: strain off the liquor for a fomentation, to be applied with flannels in the usual manner, every morning two hours before the patient gets up, and at night, after she is in bed, till the disorder goes off entirely.

Of a fit of the Stone in the Kidneys.

1. **I**T is accompanied with the following symptoms. (1.) A fixt pain in the region of the loins, (2.) bloody urine, (3.) the voiding of a stone or gravel, (4.) a numbness of the leg on the side affected, (5.) the testicle of the same side drawn into the scrotum, and (6.) a nausea and vomiting. The colic is not much unlike a fit of the stone, tho' it manifestly differs from this disorder in some symptoms, which we have already enumerated in treating of the bilious colic. *

2. If the patient be of a sanguine constitution. take away ten ounces of blood from the arm of the contrary side, then let a gallon of posset-drink, wherein two ounces of marshmallows have been boil'd, be drank as expeditiously as possible, and the following glyster injected.

Take of the roots of marshmallows, and lillies, each an ounce—the leaves of mallows, pellitory, bear's breech, and camomile flowers, of each a handful; linseed and fenugreek seed, each half an ounce; boil them in enough spring-water to leave a pint and a half of strain'd liquor for a glyster.

3. When the posset-drink is thrown up, and the glyster comes away, give a sufficiently large dose of liquid laudanum, for instance, twenty five drops, or fifteen or sixteen grains of *Matthew's pill*.

4. But in persons in years, and such as are much weakened by a long continuance of the disease, and likewise in aged women that are subject to the vapours, bleeding is to be omitted, especially if they part with black sandy urine in the beginning of the fit,

* See p. 185.

fit, but in all other respects the above-mentioned method is to be followed.

Of Bloody-Urine from the Stone in the Kidneys.

1. **T**HE patient should take weekly, on a set day, two ounces and a half of manna, dissolv'd in a quart of whey.

2. It is proper sometimes to drink a large draught of small beer.

3. If there be a large stone in the kidneys, a heavy dull pain is felt, which increases not at all, is not violent, nor accompanied with a fit of the stone.

4. The patient cannot safely enter upon a course of the steel waters, without being first well assured that the stone is not too large to pass the ureters, which can only be certainly learnt from his having had a fit of the stone before, attended with a very severe pain in one kidney, extending thro' the whole duct of the ureters, and excessive vomiting, in which case he may be certain there is no large stone, but rather a number of small ones, one of which will fall from time to time into the ureter, and so cause a fit, which seldom terminates, till the stone is protruded into the bladder. Now in this case there is not a more efficacious remedy, than a course of steel waters. But if the patient hath never had a nephritic fit, by reason of the stone's being too large to pass the pelvis, these waters must be refrained.

Of the Dysentery, Looseness, and Tenesmus.

1. **T**HE dysentery, or bloody flux, begins with (1.) a chillness and shaking, succeeded (2.) by a heat of the whole body, and soon after (3.) by gripes, and these (4.) by frequent mucous stools, accompanied with violent pain, and a painful descent as it were of the bowels at every stool, but sometimes an excrementitious stool intervenes, (5.) the stools are ordinarily streak'd with blood, but sometimes not the least blood is mixed with them throughout the whole course of the disease, (6.) pure blood is sometimes voided in the course of the distemper, and the bowels are affected with an incurable gangrene, (7.) if the patient be in the prime of life, or has been heated by cardiacs, a high fever rises, and the tongue is covered with a thick white mucus, and sometimes is dry and black, (8.) a loss of strength and spirits is joined with the fever, and the inward parts of the mouth and throat are affected with aphthæ, especially if the evacuation of the peccant matter hath been injudiciously check'd
by

by astringents, without having been first carried off by purgatives. Sometimes the dysentery is unattended with a fever, and begins with gripings, which are succeeded with the other symptoms of this disorder.

2. In a looseness, excrementitious humours are unmix'd with blood, and there is no ulceration of the bowels.

3. In a tenesmus there is a continual inclination to go to stool, yet nothing is voided but a bloody or purulent mucous matter.

4. Bleed immediately in the arm, and the same evening give an opiate, and next morning my common purging potion, and repeat it twice more, allowing a day between each purgation, and exhibiting an opiate also after every purge, as soon as the operation is over; but on the intermediate days of purging, give it morning and night.

5. After bleeding and purging once, let the following cardiac be taken throughout the whole course of the disease.

Take of the distill'd waters of black cherries and straw berries, of each three ounces; plague waters, compound scordium water, and small cinnamon water, of each an ounce; prepar'd pearl, one dram and a half; fine sugar, enough to sweeten the whole, and half an ounce of rose water, to give it an agreeable taste; make a julep, of which let the patient take four or five spoonfuls when faint, or at pleasure.

6. The patient's common drink should be milk boil'd with thrice the quantity of water, or the white decoction made as follows.

Take of burnt hartshorn, and the crumb of white bread, of each two ounces; boil them in three pints of water to a quart, and afterwards sweeten the liquor with a sufficient proportion of fine sugar.

7. Or if great weakness should require it,

Take of spring-water, a quart; canary, half a pint; boil them together a few minutes, and let it be drank cold for common drink.

8. When the patient has been purged thrice, the cure depends entirely on exhibiting laudanum twice or thrice a day, only a glyster made of half a pint of milk, and an ounce and a half of *Venice* treacle, should be given now and then; it being an excellent remedy in all kinds of loosenesses.

9. When the flux amounts to no more than a looseness, omit the

the bleeding and purging above prescribed, and give the following bolus every morning.

Take of rhubarb, half a dram (more or less in proportion to the strength of the patient) diascordium, enough to make it into a bolus; to which add two drops of the oil of cinnamon.

10. In the evening, after the operation is over, administer an opiate.

Take of small cinnamon water, an ounce; liquid laudanum, fourteen drops; mix them for a draught.

11. The dry gripes are cured by diluting with cold whey, and giving glysters of the same warm, in the same manner as we directed to be done in the cholera morbus, with chicken broth, or posset-drink.

12. If this disease proves of long standing, so as to be totally fixt in the rectum, and attended with a continual inclination to go to stool, a restorative diet must be ordered, and some cordial liquor taken at pleasure to recruit the strength, and the tenesmus will go off spontaneously, as the strength returns.

13. If the dysentery has been ill treated, it sometimes afflicts the patient for some years, in which case repeated bleeding will restore him to his former health.

14. It is to be observed, that in those constitutions of the air which have a less tendency to promote this disease, omitting the evacuations above specified, it may be cured with laudanum only, which is to be repeated morning and night, or even thrice a day, if there be occasion, till the symptoms totally vanish.

Of the bilious Colic.

1. **I**T is a violent pain of the bowels, which begins with (1.) a fever, that lasts a few hours, and terminates in this disease, wherein (2.) the bowels seem to be tied together, or purs'd up, and perforated as it were, with some sharp-pointed instrument, and the pain abates between whiles and soon comes on again, (3.) in the beginning the pain is not so certainly fixt in one place, nor the vomiting so frequent, and the belly yields with less difficulty to purgatives, (4.) but the more the pain increases, the more obstinately it fixes in one place, (5.) the vomiting returns oftner, and the belly is more costive; the disorder at length degenerating into an iliac passion.

2. It is distinguished from a fit of the stone by the following signs.

figs. (1.) In the stone the pain is fixt in the kidneys, and extends from thence along the ureter to the testicle; whereas in the colic it shifts, and straitens the belly as if it was bound with a girdle. (2.) In the colic the pain increases after eating, but in the stone it rather abates. (3.) The colic is more relieved by vomiting and purging than the stone. (4.) In the stone the urine is at first clear and thin, but afterwards lets fall a sediment, and at length gravel and small stones are voided therewith; whereas in the colic the urine is turbid from the beginning.

3. Bleed plentifully in the arm, and after three or four hours, give an opiate: next day exhibit a lenient cathartic, and repeat it a third time, allowing a day between each time of taking it.

4. But if this disorder proceeds from a surfeit of fruit, or any other aliment, the stomach must first be well cleansed by drinking a large quantity of posset-drink, and after it is thrown up, administering an opiate. Next day recourse must be had to bleeding, and afterwards the process above delivered is to be followed in the manner there prescribed.

5. When this disease, by reason of wrong management, proves of long standing, and brings the patient to the brink of the grave, plague water, aqua mirabilis, or any other cordial he liked best when in health, drank plentifully, gives surprising relief.

Of the Cholera Morbus.

1. **T**HIS disease prevails only in *August* and seldom reaches to the first week of *September*. The disorder occasioned by a surfeit, which happens at any time of the year, tho' curable by the same method, is notwithstanding of a very different kind. The cholera morbus hath the following symptoms. (1.) Immoderate vomiting, and a discharge of vitiated humours downwards, with great pain and difficulty, (2.) violent pain and swelling of the abdomen and bowels; (3.) heartburn, (4.) thirst, (5.) a quick, small, and irregular pulse, (6.) heat, and restlessness, (7.) great nausea, (8.) sweating, (9.) contraction of the limbs, (10.) fainting, (11.) coldness of the extremities, and the like symptoms, which destroy the patient in the space of twenty four hours.

2. Let a chicken be boil'd in about three gallons of water, so that the liquor may scarce taste of the flesh. The patient must drink several large draughts of this weak broth, warm, or, for want of it, of posset-drink, and at the same time glysters of it are to be given successively. An ounce of the syrup of lettuce, purslain, or water-lilly may be now and then added to the draughts and glysters.

3. When

3. When the business of cleansing the stomach and bowels is over, which requires three or four hours, an opiate completes the cure.

4. But if the physician be not called, till the patient is exhausted by the continuance of the vomiting and purging for several hours, and the extremities are grown cold, he must immediately have recourse to liquid laudanum, and give a large dose of it; for instance, twenty five drops in an ounce of strong cinnamon water, and repeat the laudanum daily, morning and night, but in a less dose, even after the symptoms are gone off, till the patient recovers.

5. There is a kind of cholera morbus, occasioned by dentition, or a surfeit, which frequently attacks children, and often destroys them.

6. And, as by reason of their tender age children cannot bear to have their stomachs cleans'd with large quantities of liquor, and much less the raising a greater disturbance in the humours by purgation, the cure is therefore to be attempted only by laudanum. For this purpose give three, four, or more drops thereof, in proportion to the age of the child, in a spoonful of small-beer, or some proper distill'd water, and repeat it as there is occasion.

Of the Colic of the People of Poictiers.

1. **T**HIS is a kind of colic, which ordinarily degenerates into a palsy, and a total loss of the motion of the hands and feet. *Riverius* describes it under this * name. 'Tis a common disorder in the *Carribbee* islands, where it seizes abundance of persons.

2. This severe pain is cured by giving balsam of *Peru* often in a large dose; for instance, twenty, thirty, or forty drops, in a spoonful of fine sugar, twice or thrice a day; but the palsy yields not to this remedy.

Of the iliac Passion.

1. **I**N this disorder (1.) the peristaltic motion of the bowels is inverted, (2.) cathartics and glysters soon become emetic, and (3.) the excrements are vomited up.

2. Take away nine or ten ounces of blood from the right arm, and a few hours afterwards give the following powder.

* *Vid. op. River. cap. de paralyf.*

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Take of the rosin of scammony, or, for want of it, of jalap, twelve grains; calomel, a scruple; mix them together for a powder, to be taken in a spoonful of milk, drinking a spoonful or two of milk after it.

3. Or, if pills are more agreeable,

Take of the pills of two principal ingredients, half a dram; calomel, a scruple; balsam of *Peru*, enough to make them into four pills, to be taken in a spoonful of syrup of violets.

4. If these pills be thrown up, exhibit twenty-five drops of laudanum immediately in a spoonful of strong cinnamon water; and the vomiting and pain being abated hereby, repeat the purgative. But if the vomiting and pain return, after the virtue of the opiate is gone off, and the purgative still lodges in the body, we must return to the opiate again, and repeat it every fourth or sixth hour, till the bowels be made perfectly easy, when the purgative will operate in its usual manner.

5. It is also proper to give a strong purging glyster an hour or two after bleeding; as, for instance, the smoke of tobacco, forced up thro' a large bladder into the bowels by an inverted pipe, and this may be repeated in a few hours, unless a passage downwards be sooner opened.

6. As soon as the purgative hath done working, exhibit the following draught.

Take of strong cinnamon water, an ounce; liquid laudanum, twenty-five drops; mix them together for a draught.

This draught must be repeated twice or thrice, or oftner in a day, till the vomiting and pain are quite gone off; and, in order to compleat the cure, it is proper, even after this, to give the same opiate in a less dose every night at bed-time, for some time.

Of the immoderate Flux of the Menses.

1. **T**H E menstrual discharge in its natural state is esteem'd to fill the shell of a goose's egg. It is known to be immoderate by (1.) the difficulty of bearing it, (2.) loss of strength and appetite, (3.) cachexy, (4.) fallow complexion, and (5.) swelling of the feet.

2. Take away eight ounces of blood from the arm, and next morning give my common purging potion, and repeat it every
other

other day to a third time, exhibiting a dose of syrup of white poppies, at night after the operation.

3. On the intermediate days of purging, let the following remedies be used.

Take of the conserve of dried roses, two ounces; troches of Lemnian earth, a dram and a half; pomegranate bark, red coral prepar'd, and Armenian bole, of each two scruples; blood-stone, and dragon's-blood, each a scruple; syrup of quinces, a sufficient proportion to make the whole into an electuary; of which let the quantity of a large nutmeg be taken every morning, and at five in the afternoon, drinking six spoonfuls of the following julep upon it.

Take of the distilled waters of oak-buds, and plantain, each three ounces; small cinnamon water, and syrup of dried roses, each an ounce; spirit of vitriol, as much as will make it agreeably tart.

Take of the leaves of plantain, and nettles, each a sufficient quantity; bruise them well together in a marble mortar, and press out the juice, and lastly clarify it. Let four spoonfuls of it be taken often, or at pleasure.

4. After the first purge apply the following plaister to the region of the loins.

Take of the red lead plaister, and rupture plaister, each equal parts, melt them down together, and spread the mass upon leather.

Of the hysteric Colic.

1. **I**T is a kind of hysteric complaint, or rather a remarkable and common symptom of the hysteric passion, accompanied with a very violent pain of the parts near the scrobiculum cordis, and likewise with a discharge of green humours upwards.

2. The patient must drink a large quantity of posset-drink, for instance, a gallon and a half, and throw it up again, that the abundance of vitiated humours lodg'd in the stomach may not hinder the effect of the quieting medicine; and after the affair of vomiting is over, give twenty-five drops of liquid laudanum, in an ounce of strong cinnamon water, plague water, or any other suitable vehicle.

3. With respect to the use of the opiate, let it be observed, that it must be repeated till the symptoms go off entirely, allow-

ing a proper interval between every dose, so that we may conjecture what effect the last hath had before we exhibit another.

4. If the patient be of a sanguine constitution, or hath been a little afflicted with this disorder formerly, and not much weaken'd thereby, bleeding in the arm should precede the vomit prescrib'd. The *clavus hystericus* yields likewise to the same treatment.

5. But if the hysteric colic hath continued long, and attack'd by fits, it is proper in this case to use the following medicines in the intervals of the fits.

Take of zedoary, in fine powder, a dram; syrup of candied citron, enough to make it into a bolus; to be taken morning and night for thirty days, with the following infusion after it.

Take of zedoary, thinly sliced, half an ounce; canary, four ounces; digest them together for twelve hours, without heat, then strain off the tincture.

Or balsam of *Peru* may be used, as is directed in the colic of the natives of *Poitiers*.

6. It must be carefully noted, that what is here said of the hysteric colic, is to be applied to the hypochondriac colic likewise. The nature of both these disorders should seem to require a trial to be made of several medicines, till at length we hit upon one, in a manner naturally curative of this disease: tho' in general steel is most serviceable here.

7. The hysteric colic both in hysteric and hypochondriac subjects often terminates in a jaundice, which goes off by degrees spontaneously; but if it continues long, let the following apozem be exhibited.

Take of roots of madder and turmeric, each an ounce; the roots together with the leaves of the greater celandine, and the tops of the lesser centory, each a handful; boil them together in equal quantities of *Rhenish* wine and spring water, to a quart; and to the strain'd liquor add two ounces of the syrup of the five opening roots: mix them together for an apozem, of which let half a pint be taken warm every morning and night, till the cure be finish'd.

Of that kind of Jaundice which does not succeed the Colic.

1. **T**HIS disorder manifests itself by the following signs: (1.) a yellowness of the whole body, most visible in the whites of the eyes, (2.) a seeming yellowness of all objects, (3.) itching, (4.) heaviness, (5.) lassitude, (6.) bitterness of the tongue, (7.) bilious vomiting sometimes, (8.) a hiccup, (9.) white excrements, (10.) the urine of a saffron colour, and staining linen dipt therein yellow.

2. Exhibit my common purging draught, and then let the patient begin the following course of medicine, and, during the continuance thereof take the purging draught every fourth day.

Take of the conserves of *Roman* wormwood, and orange peel, each an ounce; candied angelica and nutmegs, the compound powder of wake-robin, and steel prepar'd with vinegar, of each half an ounce; extract of the lesser centory and gentian root, and cream of tartar, of each two drams; saffron in powder, half a dram; syrup of the five opening roots, enough to make the whole into an electuary, of which the quantity of a nutmeg is to be taken every morning, and at five in the afternoon, drinking after the morning dose two quarts of the purging mineral waters, and after the dose in the afternoon, half a pint of the apozem set down under the article of the hysteric colic.

Or instead of this electuary the patient may take steel pills.

3. But if the signs of a dropsy appear, the apozem must be taken morning and night.

4. If, notwithstanding the long continuance of this process, the disease yields little or not at all, the patient should be sent to drink the steel waters at the well-head.

Of preventing Miscarriage.

1. **F**OR this purpose the same medicines are to be prescrib'd as in the immoderate flux of the menses; only omitting purgation, and the juices of the herbs.

Of the immoderate Flux of the Lochia.

1. **T**O constitute a natural flux of the lochia three things are required: (1.) a copious discharge of pure blood for the first three days, then (2.) of watery blood (like water in which raw flesh has been wash'd) for about four days more, and afterwards (3.) a viscous mucilaginous matter, mix'd with little or no blood, for the five or six immediately following days, and thence to the end of the month.

2. An immoderate flux of the lochia is known by (1.) a loss of strength, (2.) fainting, (3.) the coming away of clotted blood, (4.) loss of appetite, (5.) pain in the hypochondria, (6.) a swelling of the abdomen, (7.) a weak and quick pulse, (8.) dimness of sight, (9.) noise in the ears, and (10.) convulsions.

(3.) An incrassating diet is to be directed, along with the following binding decoction.

Take of plantain water and red wine, each a pint; boil them together to the consumption of a third part, and then sweeten it with fine sugar. Let half a pint of it be taken twice or thrice a day.

4. In the mean time exhibit some weak hysteric julep, and let the following composition, or a small vial of spirit of sal ammoniac, be often held to the nose.

Take of galbanum and fetid asa, each two drams; castor, a dram and a half; volatile salt of amber, half a dram: mix them together for a nodule.

Of the Suppression of the Lochia.

1. **T**HIS disorder is accompanied with (1.) a swelling of the belly, (2.) a dull pain in the abdomen, loins and groin, (3.) redness of the face, (4.) difficult respiration, (5.) a wild look, (6.) shivering, (7.) an acute fever, (8.) cold sweats, (9.) fainting, (10.) pulsation and heat in the womb, (11.) a palsy of the lower parts, and (12.) sometimes an epilepsy.

2. The patient should be put to bed forthwith, and an hysteric plaster applied to her navel, and immediately begin to take the following medicines.

Take of the conserves of *Roman* wormwood and rue, each an ounce; the troches of myrrh, two drams; castor, saffron, volatile sal ammoniac, and fetid asa of each half a dram;

mix them all together, and make an electuary thereof with a sufficient quantity of the syrup of the five opening roots; let the patient take the quantity of a nutmeg of it every four hours, drinking after it four or five spoonfuls of the following julep.

Take of the distilled water of rue, four ounces; compound briony water, two ounces; fine sugar enough to sweeten it, and make a julep.

Or let her take a scruple of the troches of myrrh every four hours.

3. If, after having taken these medicines in the quantity here ordered, the lochia still continue suppress'd, exhibit, only once, fourteen drops of liquid laudanum, in a small quantity of compound briony water, or a grain and half of solid laudanum, and half a scruple of fetid asa, made up into two pills.

4. And these not availing, give only a single glyster of milk and sugar.

Of the Dropsy.

I. **O**NE of the first signs of the dropsy is, the pitting of the leg, when the finger is press'd against it, which is most apparent at night, but disappears in the morning, especially if the swelling of the legs be accompanied with a difficulty of breathing: tho' pregnant women, and those that labour under a suppression of the menses, and men that are suddenly freed from an inveterate asthma, often have swellings of a like kind. When the feet, legs, and thighs have received as much water as they can hold, it flows into the abdomen, and by degrees stretches it as tight as its coats will bear, till falling at length upon the vital and noble parts, the patient is destroy'd by a kind of deluge. In the same degree that the swelling of the parts affected increases, the other parts waste away, and at the same time a difficulty of breathing, the making little urine, and great thirst, accompany the distemper. The dropsy chiefly attacks men in years, and women after they are past bearing children.

2. The curative indications are (1.) to evacuate the water, and (2.) to strengthen the blood, so as to prevent a fresh drain of water into the parts affected.

Take of white wine, four ounces; jalap in fine powder, a dram; powder'd ginger, half a scruple; syrup of buckthorn, one ounce; mix them all together for a draught, to be taken ear-

ly in the morning, and repeated every day, or every other day, as the strength will bear, till the swelling of the parts affected vanishes.

Or,

Take of tamerinds, half an ounce ; the leaves of sena, two drams ; rhubarb, a dram and half ; boil them together in a sufficient quantity of spring-water, so as to leave three ounces of strain'd liquor, in which dissolve manna and solutive syrup of roses, of each an ounce ; syrup of buckthorn, half an ounce ; and of the electuary of the juice of roses, three drams ; mix them together for a draught, to be taken as the former.

Or,

Take of the pills of two principal ingredients, a scruple ; elaterium three grains ; make them into three pills, to be taken betimes in the morning, and repeated as there is occasion.

Or,

Take of gamboge, fifteen grains ; white wine, and the distilled water of succory, of each an ounce and half ; syrup of buckthorn, half an ounce ; mix them together for a draught, to be taken as above directed.

Or,

Take of the inner bark of elder, three handfuls ; boil it in a quart of milk and water equally mixt, to a pint, then strain it off : half of it to be drank every day in the morning, and the remainder at night, till the patient recovers.

But this medicine is serviceable only in such subjects as are easily purged.

3. With respect to purging in this disease, the three following cautions are to be observ'd.

4. (1.) It must be inquired, whether the patient is easy or hard to purge ; because in the former case an ounce of syrup of buckthorn, given by itself, will evacuate a sufficient quantity of water ; whereas, in the latter case, the purgatives above set down, tho' of the strongest kind, will hardly answer the end.

5. (2.) All mild purgatives do more mischief than good, for which reason rough purging is preferable to weak.

6. (3.) The water should be carried off as speedily as the strength will permit, lest by purging only at distant intervals, we allow time for a fresh collection thereof.

7. But

7. But there are some cases where all kinds of purgatives must be forborn. Thus, for instance, in weak habits, and hysteric women, the evacuation of the water is only to be attempted by diuretics, the most efficacious of which are prepar'd from lixivial salts.

Take of broom ashes, a pound ; digest them without heat in two quarts of *Rhenish* wine ; and take three ounces of the filtred liquor every morning, and at five in the afternoon, till the water be carried off.

8. When the water is all carried off, heating and strengthening medicines are to be used.

Take of horse-radish root, the leaves of common wormwood, scurvy-grass and sage, and the tops of the lesser centory and broom, of each a sufficient quantity ; infuse them in strong beer, and use it for common drink.

This medicated beer does sometimes cure a recent dropsy, without the assistance of purgatives : but instead of it the following medicines may be taken.

Take of the conserves of *Roman* wormwood and scurvy-grass, each an ounce ; the extract of gentian, common wormwood, and the lesser centory, of each three drams ; syrup of citron peel, enough to make the whole into an electuary, of which the quantity of a nutmeg is to be taken every morning, at five in the afternoon, and at night, drinking after it four ounces of the following infusion.

Take of the gentian root, the tops of broom, the lesser centory, and common wormwood, each an handful ; the seeds of fennel and parsley, each two drams ; slice and bruise the ingredients, and pour upon them two quarts of *Rhenish* wine, and let them stand together to infuse without heat, and the liquor be strained off only when wanted.

9. It is to be noted, that purgatives must absolutely be forborn, during the use of strengthening medicines, and likewise whilst we exhibit lixivial salts, with which however strengthening medicines may be commodiously given.

Take of horse-radish roots three ounces ; the leaves of scurvy-grass, common wormwood and sage, and the tops of the lesser centory and broom, of each three handfuls ; three *Seville* oranges ; infuse all together in six gallons of aie made with-

out

out hops, whilst it is working, and let it be used for common drink.

Of a gonorrhœa virulenta, or venereal running.

1. **T**HIS disorder begins with an uncommon pain in the parts of generation, and a kind of rotation of the testicles; and in such as have not been circumcised, a spot not unlike the measles appears upon the glans, soon after which the fluid resembling semen flows therefrom, which changes every day both in colour and consistence, and at length turns yellow, but paler than the yolk of an egg; and when this disease is more virulent, and degenerated into the pox, this matter becomes green, and is mix'd with a watery humour, streak'd with blood. The pustule upon the glans terminates at length in an ulcer, resembling the *aphthæ* in the mouths of children, and spreads and eats deeper every day, and the lips grow callous. Those that have undergone circumcision, or have the glans bare, have no ulcer in this part, but only the gonorrhœa. The running is soon succeeded by a pain in the penis at every erection, as if it were violently squeez'd with the hand, which symptom happens chiefly in the night when the patient grows warm in bed. The penis is bent by the contraction of the frænum, and with these symptoms are joined a heat of urine, scarce felt at the time of making, but immediately afterwards the patient is sensible of a burning heat all along the duct of the urethra, and especially at its termination in the glans. Sometimes caruncles prevent the exclusion of the urine, and sometimes a pain and inflammation of the scrotum succeed.

2. Let four of the following pills be taken every morning till the heat of urine be much abated, and the running grown considerably paler, or whitish; then every other day for a fortnight, and at last twice a week till the running ceases.

Take of the greater pill called *cochia*, three drams; the extract of ruddus, a dram; rosin of jalap, and scammony, each half a dram; opobalsamum, enough to make them into a mass; every dram whereof is to be made into six pills.

3. Those that are hard to purge may take my purging potion now and then between the pills, to which may be added syrup of buckthorn, and the electuary of the juice of roses, of each two drams: or, if the cure goes on slowly, eight grains of turbith mineral may be given twice or thrice, interposing four days between each dose; or, instead of it the following.

Take

Take of the pills of two principal ingredients, half a dram ; sweet mercury, a scruple ; opobalsamum, enough to make them into four pills, to be taken early in the morning.

4. If the patient has an aversion to this method of purgation, after having taken the pills above prescribed for three mornings running ; let the following glyster be given every morning, and at five in the afternoon ; only once or twice a week administer a purgative, and omit the glyster.

Take of the electuary of the juice of roses, six drams ; Venice turpentine, dissolv'd with enough yolk of egg, half an ounce ; dissolve them in a pint of barley water, and add two ounces of syrup of violets to the strained liquor : mix the whole for a glyster.

5. Exhibit twenty-five drops of opobalsamum, or balm of Mecca, dropt upon a lump of fine sugar, every night ; or, instead of it, the quantity of a hazle nut of Cyprus turpentine. His common drink should be milk boiled with thrice as much water, and small beer at meals.

6. Or you may proceed in this manner.

Take of the pills of two principal ingredients, half a dram ; opobalsamum, three drops ; make them into three pills, to be taken at four in the morning, sleeping upon them, and let them be repeated every other, or every third day.

7. On the intermediate days of purging, give the glyster above prescribed, in the morning, and at five in the afternoon.

8. Whatever method of cure be used, the patient must be blooded once or twice towards the middle of the course ; and a cooling or thickening diet order'd, along with medicines of the same kind ; as milk and water, emulsions of the four greater cold seeds, and the like.

9. If the penis be swell'd,

Take of the roots of marshmallows and white lillies, each an ounce and half ; the leaves of mallows, mullein, elder, and henbane, and the flowers of camomile and melilot, of each an handful ; the seeds of flax and fenugreek, each half an ounce ; boil them together, in a sufficient quantity of spring water, for a fomentation, to be applied to the part affected for the space of an hour, twice or thrice a day.

After fomenting the part, let it be anointed with fresh linseed oil, and then apply the mucilage plaister, spread on leather, to the swell'd lips of the prepuce.

10. But if the lips of the prepuce, or glans, be ulcerated, have recourse to the following liniment.

Take of the ointment basilicon, six drams; the ointment of tobacco, two drams; red precipitate (wash'd in rose water and levigated) half a dram; mix them together for a liniment, to be applied upon lint to the ulcer, after using the fomentation above set down.

11. If the scrotum be swell'd, take away blood from the arm immediately, and apply the abovementioned fomentation twice a day to the part affected, adding a spoonful or two of spirit of wine to it, every time it is used: or instead of it, use a cataplasm made of onyxcrate and bean-meal.

12. In the mean time the purgatives and coolers, above-enumerated, must be given inwardly.

Of the Venereal Disease.

1. **W**HEN the blood is tainted by the long continuance of a gonorrhœa, or the unadvised use of astringents, the true pox appears, which is attended (1) with buboes in the groin; (2.) pains in the head, and limbs between the joints, which chiefly come in the night, after the patient is warm in bed; (3.) yellow scabs also, and scurfe in different parts of the body, which resemble an honey-comb, and the more they spread, the less pain the patient feels; (4.) exostoses in the cranium, legs, and arms; (5.) inflammation and caries of the bones; (6.) phagedenic ulcers in various parts of the body, which generally seize the throat first, and eat by degrees thro' the palate, to the cartilage or bridge of the nose, which they soon consume, so that the nose for want of its support falls flat; (7.) the ulcers, caries, and pains increasing every day, the limbs rot away piece-meal, and the mangled carcase, being at length grown hateful to the living, is buried in the earth.

2. Take of hogs lard, two ounces; quick silver an ounce; mix them together according to the rules of art, for a liniment, to be divided into three equal parts, with one of which the patient is to anoint his arms, thighs, and legs, with his own hand, for three nights running.

3. If the salivation rises not in three days after the last unction, eight grains of turbith mineral may be given in a little conserve of red roses, or in weak habits a scruple of sweet mercury. If the salivation abates before the symptoms are quite gone off, it must be

increased by exhibiting now and then a dose of sweet mercury occasionally.

4. The salivation should be so regulated, that the patient may spit about two quarts in twenty four hours.

5. If it rises too high, and is accompanied with great inflammation, and other symptoms of a like kind, it must be lower'd to a proper degree by purgatives.

6. As soon as the symptoms are gone off, the patient's linen should be chang'd for what has been worn since it was wash'd.

7. If a looseness succeeds, as it generally does soon after the salivation rises, it must be stopt by administering laudanum; increasing and repeating the dose, till it hath produced the desired effect.

8. If the mouth be ulcerated, it must be gargariz'd or wash'd with rose-water, milk and water, or the following gargarism

Take of the roots of marshmallows, and pearl barley, of each an ounce; quince seeds half an ounce; boil them together in enough spring water to a quart, for a gargarism, to be frequently used.

9. The same regimen and diet are to be order'd in a salivation as are used in a course of purging; only the patient may live upon posset-drink, water gruel, barley-gruel, and warm small-beer, for a few days in the beginning of the course.

10. The course being duly finish'd, tho' the symptoms should seem gone off, and the distemper consequently cur'd, yet, in order to prevent a relapse, the patient should take a scruple of sweet mercury, once a week, for a month, or six weeks, tho' he appears to be perfectly well and goes abroad.

Of the Fluor Albus.

1. **T**HE flux in this disorder is sometimes white, sometimes pale, yellow, green, or blackish, sometimes sharp and corroding, and sometimes of a pungent ill smell. It is accompanied with a paleness of the face, a pain in the back bore, loss of appetite, and a swelling of the eyes and legs. A piece of linen dipt in the discharge and dried, shews the nature of it.

2. Take away eight ounces of blood from the arm, and next morning at four o'clock let the following pills be taken, sleeping upon them; and repeat them twice more, allowing a day or two between every dose according to the strength of the patient.

Take

Take of the greater pil. cochia, two scruples; castor, two grains; ballam of *Peru*, three drops; make them into four pills.

Take of the distill'd water of rue, four ounces; compound briony water two ounces; fine sugar enough to sweeten them, and make a julep, of which let the patient take three or four spoonfuls, whenever she is faint.

Take of *Venice* treacle, an ounce and half; conserve of orange peel, an ounce; diascordium, half an ounce, candied ginger, and nutmeg, each three drams; compound powder of crabs claws, a dram and half; the outward bark of pomegranate, *Spanish* angelica root, red coral prepar'd, and the troches of *Lemnian* earth, of each a dram; *Armenian* bole, two scruples; gum arabic, half a dram; syrups of dried roses, a sufficient quantity to make them into an electuary; of which let the patient take the quantity of a large nutmeg, every morning, at five in the afternoon, and at bed-time, for the space of a month, drinking after it six spoonfuls of the following infusion.

Take of the roots of elecampane, masterwort, angelica, and sweet cane, each half an ounce; the leaves of *Roman* wormwood, white horehound, and lesser centory, common calamint, and dried sage, of each an handful; juniper berries, an ounce; slice and bruise these ingredients, then pour upon them two quarts of canary, and let them stand together to infuse without heat, and strain it off as it is used.

3. The patient ought to live upon food of easy digestion, forbear all kinds of greens and fruit, and drink canary at meals.

Of a Diabetes.

1. **I**N this distemper the juices carried into the blood, being crude and indigested, pass off by urine, which by degrees impairs the strength, and wastes the body; the substance of which is in a manner drain'd thro' this strainer: it is accompanied also with thirst, heat of the viscera, a swelling of the loins and lips, and a frequent sputation of a frothy saliva.

2. The same medicines are to be prescrib'd in this case, as in the fluor albus, except bleeding and purging.

Of the Piles.

1. **T**HEY occasion violent pain in going to stool, and the outside of the excrements appears streak'd with blood: they are small tumours like warts, which sometimes lie conceal'd in the sphincter, and sometimes appear outwardly in the anus.

2. Take away ten ounces of blood from the right arm.

Take of melon and pumpkin seeds, each half an ounce; white poppy seeds two drams; five blanched sweet almonds; beat them together in a marble mortar, and pour on, by degrees, a pint and half of barley water; to the strained liquor add two drams of rose-water, and enough sugar to sweeten it. Let three ounces of this emulsion be taken often.

Take of the flower of sulphur, liquorice powder, and sage reduc'd to powder, of each a dram; *Locatellus's* balsam, enough to bring them into a mass for pills; and make six pills of a dram, three of which must be taken three times a day, drinking after them six spoonfuls of the emulsion above prescribed.

3. Apply a piece of linen dipt in the following mixture to the part affected, or if the tumour be internal, throw up three spoonfuls of it into the anus with a syringe.

Take of the distill'd water of frog-spawn, four ounces; dissolve therein two drams of litharge, and a scruple of opium, and make a mixture.

4. The patient should use milk, boil'd with thrice as much water for his common drink, forbear flesh, and take a dose of syrup of white poppies every night.

Of the immoderate bleeding of the Piles.

1. **T**HIS disorder manifests itself, (1.) by the loss of strength; (2.) the large quantity of blood voided, and the long continuance of the flux; (3.) the ill colour of the skin, which looks yellowish, as in the jaundice; and these symptoms are succeeded by (4.) a cachexy; and (5.) afterwards a dropsy.

2. The same medicines may be advantageously used in this case, as in the immoderate flux of the menses, purging only excepted.

1. **C**Hildren are seiz'd with this disorder, either in the first month after a looseness, in which case a few grains of diascordium, dissolv'd in the distill'd water of saxifrage, or the mother's milk is an excellent remedy: or it attacks them about the time of dentition, from the seventh to the tenth month, and is attended with a cough, or, which is much worse, a vomiting and looseness, with green stools, as is usual in hysteric subjects.

2. Sometimes the fit comes suddenly, distorting the mouth and eyes, causing the face to turn black, and convulsing the limbs. Sometimes the fit is known to be coming by an involuntary contraction of the finger into the palm of the hand, and an uncommon fixedness of the eyes. The fits are sometimes long and sometimes short, and sometimes return at set times, and at others keep no certain period: but upon the approach of death they follow one another very quick. Children are subject to a drowsiness in the intervals, till they are rouz'd by a fresh fit.

3. Apply a blistering plaister immediately to the neck.

Take of compound piony water, three drams; liquid laudanum, a drop or two, or more drops, according to the age of the child; syrur of piony, a dram; mix them together for a draught to be taken directly.

Take of the distill'd water of rue, three ounces; compound piony water, and compound briony water, each an ounce; syrur of clove-july-flowers, half an ounce; mix them together for a julep, a spoonful of which is to be given the child every hour, if the draught above prescribed does not remove the fit.

Of the Rickets.

1. **T**HE rickets are attended with a laxness, flaccidness, weakness, and unequal nutrition of the parts of the body: thus, (1.) the head is over-large; (2.) the face too full and florid; (3.) the muscles of the neck wear away; (4.) knotty excrescencies appear in the joints, especially in the wrists, but less in the ancles; (5.) the tops of the ribs are swell'd; (6.) the bones grow crooked, especially those of the legs, the arms, neck, and sometimes also the shoulders and thighs; (7.) the teeth come slowly and painfully, and grow loose, black, and fall out by pieces; (8.) the thorax is strait, and the sternum rises in a point; (9.) the abdomen and hypochondria swell; (10.) a cough and disorders of the lungs succeed; (11.) and the patient cannot sometimes lie on the right side, and sometimes not on the left.

Take

Take of the leaves of common wormwood, the lesser centory, white horehound, germander, scordium, common calamint, feverfue, meadow saxifrage, St. John's wort, golden rod, wild thyme, mint, sage, rue, holy thistle, penny royal, southernwood, camomile, tansy, and lilly of the valley, all fresh gathered, and cut small, of each one handful; hogs lard, four pounds; sheeps suet, two pounds; claret, a quart; infuse them together in an earthen vessel upon hot ashes for sixteen hours, then boil them till the aqueous moisture is exhale, and lastly press out the ointment, with which let the abdomen, hypochondria, and other affected parts, be anointed for the space of thirty or forty days, or till the child gets well.

Take of each of the ingredients above prescribed, two handfuls; infuse them without heat in four gallons of beer, brew'd without hops, and let it be used for common drink.

2. In swellings of the belly in children, occasioned by immoderate evacuations, the blood and the viscera ought to be strengthened with strengthening herbs, as in the true rickets; but the armpits only, and not the limbs, must be anointed with the liniment above prescribed.

Of Fevers caus'd by Dentition.

1. **G**I V E two, three, or four drops of spirit of hartshorn, according to the age of the child, in a spoonful or two of black cherry water, or some other suitable vehicle, every four hours, for five or six times.

Of a hectic Fever in Children.

1. **I**N this disorder children languish without much heat, lose their appetite, and the body and limbs waste away.

2. Infuse two drams of rhubarb, slic'd thin, in a quart of small beer, and let the child use it for common drink; and this being finish'd, pour another quart of small beer upon the same rhubarb, and so a third time. But if it purges too much at first, after the child has drank a pint of it, add another pint of small beer to the remainder.

Of the convulsive, or hooping Cough in Children.

1. **T**H I S otherwise obstinate, and almost incurable disorder, yields to bleeding and repeated purging only; but none but lenient purgatives are proper here, and must be exhibited by spoonfuls, suiting the dose to the age of the child.

1. **T**HIS complaint is accompanied with pain and heat in the fore-part of the head.
2. Bleed often in the arm, and order a cooling and thickening diet, along with a cooling and thickening julep, and a cooling emulsion.
3. Give a cooling glyster every day, and an opiate of syrup of white poppies, every night; and exhibit my common purging potion once or twice.
4. Apply a piece of linen four times doubled, dipt in a solution of sal prunella, in cold water, and gently squeez'd out, to the nape and both sides of the neck often in a day.
5. And after due evacuations let the following liquor be used.

Take of *Hungarian* vitriol, and roch allum, each an ounce; the phlegm of vitriol, half a pint; boil them together till the salts are dissolved; filter the liquor when it is cold, and separate it from the chrystals that shoot between whites; lastly, add a twelfth part of oil of vitriol to the remaining liquor.

Or, which is better,

Take of plantain water, three ounces; *Armenian* bole, very finely powder'd, half an ounce; mix them well together: put up a tent of lint, dipt in the mixture, into the bleeding nostril, and keep it there two days.

6. If these applications avail not, make a solution of *Roman* vitriol in common water; dip a tent therein, and thrust it up the nose: compresses dipt in this liquor, and applied to the part affected, stop any outward bleeding.

Of the Chlorosis, or Green-sickness.

1. **T**HIS indisposition is attended with (1.) a bad colour of the face, and whole body; (2.) a swelling of the face, eye-lids, and ancles; (3.) heaviness of the whole body; (4.) a tension and lassitude of the legs and feet; (5.) difficult respiration; (6.) palpitation of the heart; (7.) pain in the head; (8.) feverish pulse; (9.) drowsiness; (10.) an unnatural longing for such things as are noxious, and unfit for food; and (11.) a suppression of the menstrual discharge.

2. Let the steel pills, or powder, ordered in the hysterick passion, be taken in a dose adapted to the age of the patient, with a few spoonfuls of wine after it, or of the strengthening infusion made with the roots of angelica there set down. And if the patient be not very weak, give her a purge or two, before putting her into this course of medicine.

1. **T**HIS disorder is accompanied with (1.) a loathing of food; (2.) bad colour; (3.) universal indolence; (4.) pain in the forepart of the head, abdomen, loins and legs, and (5.) a swelling of the feet.

2. The same medicines are to be prescrib'd in this case as in the hysteric passion; but if it yields not to them, the following process must be directed.

3. Exhibit five spoonfuls of the hysteric julep without castor, with twelve drops of the spirit of hartshorn, every morning, and at four in the afternoon, and a scruple of the troches of myrrh, made into a bolus, or pills, with syrurp of mugwort, every night at bed-time.

Of vomiting, or spitting of Blood.

1. **A** Spitting of blood is accompanied with pain and heat in the breast, and some kind of debility.

2. Take away ten ounces of blood from the right arm, and next morning give my common purging potion, and the same night an opiate.

Take of the black cherry water, three ounces; syrurp of white poppies, an ounce; mix them together for a draught.

3. Then let the patient begin to take the following medicines.

Take of *Armenian* bole, an ounce; comfrey root, in powder, two drams, seal'd earth, blood-stone, and dragons blood, of each a dram; fine sugar the weight of all the other ingredients; mix them together for a powder, a dram of which is to be taken every morning, at five in the afternoon, and at night, drinking four ounces of the following apozem upon it.

Take of the leaves of plantain, the bramble and yarrow, each a handful; boil them in a sufficient proportion of water to a pint and half; and dissolve two ounces of the syrurp of comfrey in the strained liquor; mix them together for an apozem.

Or, instead of it, let the patient take six spoonfuls of the following tincture.

Take of the leaves of red roses, and the inner bark of oak, each half an ounce; the seeds of plantain, a little bruised, three drams; spring water a quart; spirit of vitriol, enough to give it a grateful acidity; infuse them together in a close vessel, with a gentle heat for four hours; to the strained liquor

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add three ounces of small cinnamon water, and fine sugar, enough to give the tincture an agreeable taste.

4. If he has an aversion to powders, he may use the electuary prescribed in the immoderate flux of the menses.

5. Let a glyster be given every day, and a dose of syrup of poppies every night at bed-time.

6. Bleeding is also to be repeated again, as there is occasion, a first, second, or third time, at convenient intervals, and the purging potion given once more, if necessary.

7. A cooling and thickening diet is to be used.

Of the Puncture of a Tendon.

1. **I**N this case a watery humour, or ichor, flows continually from the orifice of the opened vein.

Take of the roots of the white lilly, four ounces; bruise and boil them till they grow soft in a quart of milk; then add oatmeal and linseed flour, of each three ounces; boil them to the consistence of a cataplasm in the milk wherein the white lilly roots have been boiled; and apply it to the parts affected morning and night.

Of Burns.

1. **B**A T H E the part affected with a piece of linen dipt in spirit of wine till the pain ceases; and renew the application three or four times a day.

Of the common Madness.

1. **T**HIS disorder proceeds from the over-richness and spirituousness of the blood. But there is also another kind of madness, that succeeds an intermittent of long standing, and at length degenerates into ideotism, which arises from the depressed state of the blood, occasioned by its long fermentation. In this case therefore strong cordials are to be prescribed, such as *Venice treacle*, the electuary of the egg, the Countess of *Kent's powder*, *Sir Walter Raleigh's cordial*, and the like, in plague water, or any similar vehicle along with a restorative diet.

2. But in the disorder under consideration, take away eight or nine ounces of blood from the arm in young subjects, and repeat the operation twice or thrice, at the distance of three days between each bleeding, and then bleed once in the jugular. Afterwards the cure depends wholly upon the use of the following purgative, which must be administer'd every third or fourth day, till the patient recovers: observing in the mean time to omit it for a week or a fortnight, after the patient has been purged eight or ten times.

Take

Take of the root of white briony in powder, a dram; milk, four ounces; mix them together for a draught.

Or,

Take of the root of white briony, half an ounce, or six drams; let them stand a night in infusion, and dissolve an ounce of syrup of violets in the strain'd liquor: mix the whole for a draught.

Or,

Take of gamboge, fourteen grains; black cherry-water, three ounces; syrup of clove-july-flowers, half an ounce; mix them together for a draught.

Of Bruises.

1. **T**AKE away ten ounces of blood from the arm of the affected side, and next morning exhibit the common purging potion, and then repeat bleeding and purging by turns in this manner, till the cure is completed. In the mean time, if the inward parts be hurt, let the following medicine be used.

Take of the common pectoral decoction, a pint and half; syrup of violets and maiden-hair, of each two ounces; mix them together for an apozem, half a pint of which is to be taken thrice a day:

2. A spoonful of fresh-drawn oil of sweet almonds may be given often.

Take of the oil of sweet almonds, ointment of marshmallows, and pomatum, each an ounce; mix them together for a liniment, to anoint the affected part with, morning and night, covering it with a cabbage leaf.

Of the Scab of the Head.

1. **E**Xhibit the common purging potion, and afterwards anoint the whole head with the following liniment, rubbing it in well, and then cover it with a bladder.

Take of oil of bitter almonds, and bay leaves, and the ashes of southernwood, of each an ounce; mix them well together for a liniment.

2. The head should be shaved in the first place, and then the scales rubb'd off every morning by degrees, as they grow loose.

Of the Bite of a Mad Dog.

1. **I**N forty days, or more after the bite, the signs of melancholy appear, which are (1.) a fever, (2.) thirst, (3.) hydrophobia,

or dread of water, and at length (4.) convulsions of the extremities.

Take of highly rectified spirit of wine, four ounces; *Venice treacle*, an ounce; make a mixture of them, with which let the wounded part be bathed thrice a day, covering it with a piece of linen dipt in the same.

Of an Ulcer of the Bladder.

I. **T**HE symptoms in this disorder are (1.) a voiding of fetid matter, or blood, and sometimes scales or a membranous pellicle along with the urine: (2.) a continual *dysuria*, and pain in the urinary passages.

2. In an ulcer of the kidneys, (1.) fleshy excrescencies of a different thickness are voided with the urine; (2.) the dysuria and pain come by intervals; (3.) the matter also that comes from the kidneys is more copious, and likewise white and thin, and not fetid; (4.) the urine looks like milk when it is first made, but after standing a considerable time, the matter separates from it, and falls to the bottom.

Take of the plaister called the flower of ointments, three drams: make it into nine pills, three of which are to be taken in the morning, at four in the afternoon, and at bed-time, with six spoonfuls of the following distill'd water after them.

Take of the roots of fennel, comfrey, birthwort, and avens, of each three ounces; the leaves of agrimony, *St John's wort*, fanicle, and plantain, of each six handfuls; the ingredients being sliced and bruised, pour thereon white wine and milk, of each two quarts; and afterwards draw off only two quarts for use.

Take of comfrey root, and gum arabic, each an ounce; fine sugar, two ounces; make them into a powder, a spoonful of which must be taken twice a day.

Of an obstinate Asthma in sanguine Constitutions.

I. **T**HERE are three kinds of this disorder. (1.) A *dyspnœa*, which is a dense, quick and difficult respiration, without a stertor or rattling, and proceeds from a stuffing of the lungs. (2.) An *asthma*, which is a quick and difficult respiration, accompanied with violent motions of the diaphragm, intercostal and abdominal muscles, and a rattling in the throat. In the former species the lungs themselves, and in the latter the bronchia are stuffed. (3.) An *orthopnœa*, which is the greatest difficulty of breathing, insomuch that the patient cannot breath but in an erect posture

posture, and is attended with violent motions of the muscles of the breast and shoulders.

2. Take away ten ounces of blood from the right arm, and next day give the common purging potion, which must be repeated twice more, once every third day.

3. On the intermediate days of purging let the following medicines be used.

Take of the seeds of anise, finely powder'd, two drams; *Locatellus's* balsam, enough to bring it into a mass for pills, and make six pills of a dram, three of which are to be taken every morning, and at five in the afternoon, drinking four ounces of the bitter decoction without purgatives, warm, after them.

4. If the disorder does not go off, let the whole process be repeated.

Of the Palsy.

1. **T**HE palsy is a total deprivation or diminution, either of the motion or the sense of feeling in the affected parts, or of only one of them.

2. Two scruples of the lesser *pil. cochia* must be exhibited every other day for six days, and afterwards two drams of the antiscorbutic electuary, with six spoonfuls of the antiscorbutic water hereafter prescribed for a scurvy, thrice a day, for the space of thirty days.*

Take of the nerve ointment, three ounces; compound spirit of lavender, and spirit of scurvy-grass, each an ounce and half; mix them together for a liniment, with which the affected parts, as the spine, &c. are to be anointed morning and night.

3. Most of the remedies we shall there set down, tho' they should seem appropriated only to the cure of the scurvy, yet inasmuch as they are best adapted to volatilize crude and fixt humours, are likewise proper in the palsy.

Of a Cough and a Consumption.

1. **A** Cough discovers itself; but a consumption attacks persons from eighteen to thirty five years of age, the signs of which are, (1.) a wasting of all the parts of the body; (2.) a hectic fever, discoverable by the quickness of the pulse, flushing of the cheeks, and its increasing after eating; (3.) the matter expectorated by coughing is either bloody or purulent, sinks in water, and being thrown into the fire emits a fetid smell, and these

symptoms are succeeded by (4.) night-sweats; (5.) a lividness of the cheeks at length; (6.) paleness of the face, and (7.) sharpness of the nose; (8.) sinking of the temples, (9.) incurvation of the nails, (10.) falling of the hair, and (11.) a colliquative looseness; which latter symptoms foreshew immediate death.

2. If the cough be recent, and unattended with a fever, or the other concomitants of a bastard peripneumony, and does not succeed a pleurisy or peripneumony ill cur'd for want of sufficient bleeding, the patient need only forbear wine and flesh, and use the following remedies at pleasure.

3. Let ten drops of balsam of sulphur with oil of anniseed be taken in a small spoonful of fine sugar, twice or thrice a day, and one of the following troches often, which should be carried in the pocket for this purpose.

Take of sugar-candy, a pound and half; boil it in a requisite proportion of common water till it sticks to the ends of the fingers; then add powder of liquorice, elecampane, anniseed, and angelica, of each half an ounce; powder of *Florentine* orice root, and flour of sulphur, each two drams; oil of anniseed, two scruples; mix them together according to the rules of art, and make them into troches, to be entitled family troches.

4. The following linctus should be used at the same time.

Take of the oil of sweet almonds, two ounces; syrup of maiden-hair and violets, of each an ounce; sugar-candy, enough to make them into a linctus, to be taken frequently off a liquorice stick, when the cough is troublesome.

5. If the matter expectorated be thin, an incrassating linctus should be exhibited.

6. But if the cough yields not to this treatment, and especially if it be attended with a fever, or succeeds a pleurisy, or peripneumony, it would be trifling to trust to pectorals, inasmuch as it must be cured by bleeding and purging, according to the method above delivered for the cure of the bastard peripneumony.*

7. And if notwithstanding this procedure, the cough does not only continue troublesome, but by long shaking the lungs has weakened them so much, as at length to cause a consumption, recourse is to be had to the following method.

8. Give ten drops of balsam of *Peru*, in a spoonful of syrup of ground-ivy, or, if that be disagreeable, in a spoonful of sugar, thrice a day, with four ounces of the bitter decoction without

purga-

purgatives after it, or only three ounces, if the former quantity open the body.

9. But the best remedy hitherto discovered in this case, is riding sufficiently long journeys on horse-back, provided this exercise be long enough continued: observing that the middle-aged must persist in it much longer than children, or young persons. For, in reality, the *Peruvian* bark is not more certainly curative of an intermittent fever, than riding is of a consumption, at this time of life.

Of the Scurvy.

1. **T**HE scurvy is accompanied with (1.) spontaneous lassitude, (2.) heaviness, (3.) difficulty of breathing, especially after exercise, (4.) rottenness of the gums, (5.) fetid breath, (6.) frequent bleeding at the nose, (7.) difficulty of walking, (8.) a swelling sometimes, and sometimes a wasting of the legs, on which spots always appear, that are either livid, or of a lead, yellow, or purple colour, and (9.) a fallow complexion.

2. Let eight ounces of blood be taken away from the arm, provided there be no sign of a dropfy, and next morning give my common purging potion, and repeat it a third time, interposing three days between each time of taking it.

3. On the intermediate days of purging, let the following medicines be taken, and the use of them continued for a month or two afterwards.

Take of the conserve of garden scurvy-grass, two ounces; conserve of wood-sorrel, an ounce; compound powder of wake-robin, six drams; syrup of oranges enough to make them into an electuary, of which let the quantity of a large nutmeg be taken every morning, at five in the afternoon, and at night, with six spoonfuls of compound horse-radish water, or the following distill'd water after it.

Take of the root of horse-radish, slic'd thin, two pounds; the root of wake robin, a pound; the leaves of garden scurvy-grass, twelve handfuls; mint, sage, water-creffes, and brooklime, of each six handfuls; scurvy-grass seed, a little bruised, half a pound; nutmegs half an ounce; white wine, six quarts; draw off only three quarts for use in a common still.

4. Or distil scurvy-grass, fresh gather'd for the same purpose. The patient ought likewise to use the following medicated beer for common drink.

Take

Take of the root of horse-radish, fresh gather'd, two drams; twelve leaves of scurvy-grass, six raisins ston'd, and half a *Seville* orange; bruise and slice the ingredients, and infuse them in a large glass vessel, well corked, in a quart of small-beer.

5. Let six bottles of this beer be made at one time, and in a few days, before it be finished, six more, and renew them for the future in the same manner.

6. Or instead of this beer, three or four spoonfuls of the following mixture may be added to every draught of the patient's common drink.

Take of the root of horse-radish, and the seeds of scurvy-grass, of each half an ounce; the leaves of scurvy-grass, two handfuls; and a *Seville* orange without the peel; bruise them together in a marble mortar, pouring thereon by degrees half a pint of white wine; and afterwards press out the liquor gently, and set it by for use.

7. The same remedies are likewise very beneficial in the scorbutic, or hysteric rheumatism, except bleeding and purging, which must not be used in these distempers.

Of the Gout.

1. **T**HIS distemper comes towards the latter end of *January*, or the beginning of *February*, and begins commonly about two in the morning, with a pain in the great toe, but sometimes in the heel, the ankle, or the calf of the leg; immediately, a chilness, shivering and slight fever succeed, the pain increases gradually every hour, and the chilness and shivering abate in proportion as the pain grows more severe, which at length comes to its height towards night, sometimes resembling a violent tension, sometimes the gnawing of a dog, and sometimes a weight and constriction of the parts affected, which becomes so exquisitely painful, that the patient cannot bear the weight of the clothes upon it, nor the shaking of the room from a person's walking briskly therein. The pain does not abate till two or three the next morning, that is, in twenty-four hours from the beginning of the fit, when the patient, being in a breathing sweat, falls asleep, and at waking finds the pain much abated, and the part affected newly swell'd. A slight pain is felt next day, and sometimes the two or three following days, which encreases towards evening and remits, towards break of day. In a few days it
seizes

seizes the other foot in the same manner, and after attacking both feet, the subsequent fits prove irregular both with respect to the time of seizure, and their duration; and what we term a fit of the gout is made up of a number of these small fits, and goes off sooner or later, according to the age of the patient. Thus, for instance, in strong constitutions, and such as seldom have the gout, the fit often goes off in a fortnight; but in the aged, and those that have frequent returns of the disease, it lasts two months; and in such as are more debilitated either with age, or the long continuance of the distemper, the fit does not go off till summer advances, which drives it away.

2. During the first fortnight the urine is high colour'd, and lets fall a red gravelly sediment, and the patient is usually costive. A loss of appetite, and a chilness of the whole body towards evening, accompany the fit throughout; and when it is going off, a violent itching seizes the affected foot between the toes, and afterwards the Skin of it peels off by scales.

3. In this state of the distemper the pain only affects the foot; but when the gout is exasperated either by wrong management, or long continuance, so that the substance of the body is in a manner chang'd into gouty matter, it then seizes the hands, wrists, elbows, knees, and other parts; sometimes rendering one or more fingers crooked, by degrees destroying their motion, and forming at length stony concretions in the ligaments of the joints, like chalk, or crabs eyes. Sometimes it occasions a whitish swelling upon the elbow, almost as large as an egg, which gradually inflames and grows red. Sometimes it seizes the thigh, which seems to sustain a great weight, yet without much pain, and thence gaining the knee, attacks that part more violently, and the limbs are now so contracted and disabled, that the patient halts with pain. The urine resembles that which is voided in a diabetes, and the back and other parts itch much towards bedtime.

4. After many severe fits, the subsequent fits are less painful, nature being partly oppressed by the large quantity of peccant matter, and partly by old age; but instead of the usual outward pain, the patient is seized with a sickness at the stomach, pain in the belly, spontaneous lassitude, and sometimes a tendency to a looseness. Upon the return of the pain into the joints the symptoms go off, and the pain and sickness coming thus by turns, prolong the fit considerably.

5. In many persons the gout breeds the stone in the kidneys. It seldom attacks women, and only the aged of this sex, and those

of a masculine habit of body. Children and young persons rarely have it.

6. The curative indication consists in strengthening the digestive powers, having first carried off the foul humours, and this is done either by medicine, diet, or exercise, or any other of the non-naturals.

7. Bleeding, purging, and sweating, do not answer the end; tho' in such as have the stone in the kidneys, and in consequence thereof make bloody urine, it is proper to open the body once a week with a dose of manna, and exhibit an opiate in the evening after the operation.

8. The medicines that answer the above-mentioned intention, are such as are moderately heating, and are either bitter, or of a mild pungent taste. For instance, the roots of angelica, and elecampane, the leaves of wormwood, the lesser centory, germander, ground-pine, and the like; whereto may be added such as are entitled antiscorbutics, as horse-radish root, garden scurvy-grass, water-creffes, and the like: but these, as they agitate the morbid matter, and increase the heat, must be used more sparingly than the former, which by their mild heat and bitterness strengthen the stomach. The following electuary and distill'd water are no contemptible medicines.

Take of the conserve of garden scurvy-grass, an ounce and half; the conserves of *Roman* wormwood, and orange peel, of each an ounce; candied angelica and nutmeg, each half an ounce; *Venice* treacle, three drams; compound powder of wake robin, two drams; syrup of orange enough to make the whole into an electuary, two drams of which is to be taken twice a day, with five or six spoonfuls of the following distill'd water after it.

Take of horse-radish root, slic'd, three ounces; garden scurvy-grass, twelve handfals; water-creffes, brook-lime, sage and mint, of each four handfals; the peel of six oranges; and two nutmegs bruised; *Brunswick* beer, or mum, six quarts; draw off only three quarts, for use, by the common still.

9. These digestive medicines are to be taken daily with great exactness, and especially in the intervals of the fits.

10. Such a moderation should be observed in point of diet, as, on the one hand, to avoid eating more than the stomach can digest, and on the other hand not to be so over-abstemious, as to rob the parts of the proportion of nourishment, requisite to keep up the strength. As to the quality of the food, the patient's
palate

palate is to be consulted, but he ought to eat only of one kind at a meal; as to the rest, excepting flesh, he may eat other things at pleasure, provided they are not acid, salted, or high season'd. As to the time of eating, it is best to be content with a dinner only, and instead of a supper, to drink a draught of small beer, which is preventive of the growth of the stone.

11. The best liquors for gouty persons are such as are weaker than wine, and not so weak as water, lest they hurt the stomach by their coldness. Of this kind is our small beer, or wine diluted well with water, for water by itself is pernicious: but when the whole substance of the body is in a manner degenerated into the gout, the patient should forbear all fermented liquors, even of the softest and smallest kind, and use the following diet-drink for common drink; beginning with it immediately after the fit is gone off, and continuing it for the remainder of life.

Take of sarsaparilla, six ounces; saffras wood, *China* root, and the shavings of hartshorn, each two ounces; liquorice-root, an ounce; boil them together in two gallons of spring water for the space of half an hour, and afterwards infuse them upon hot ashes, close cover'd, for twelve hours; then boil them till a third part of the liquor is exhal'd; and as soon as it is taken off the fire, infuse therein half an ounce of anniseeds for two hours; lastly, strain it off, and let it rest, till it grows clear, and bottle it for use.

12. But if the patient, either (1.) from a long-continued and over-free use of strong liquors; (2.) from old age, or (3.) extreme weakness, cannot digest his food without wine, he may drink a glass of *Spanish* wine at meals, and leave off the diet drink.

13. The patient should both go to bed and rise early, especially in winter, keep his mind easy, and avoid too much application to study and business.

14. But the best remedy is moderate exercise daily used: as to the kind, riding on horseback, or in a coach in a healthy air, is to be prefer'd, if not contra-indicated by age, or the stone. Venereal pleasures must not be indulged, and all outward applications should be forborn.

15. But tho' nothing of moment must be attempted in the fit, yet the patient should forbear flesh for a few days in the beginning of it, and instead thereof use water-gruel, or the like aliment; but if the spirits are subject to be disorder'd, the patient should refrain flesh no longer than the stomach is set against it; but he must carefully guard against all errors in the quantity or quality of the diet.

16. The symptoms endangering life must be relieved, the most frequent

frequent of which are, the faintness of the stomach, attended with gripings, as if occasioned by wind; in which case nothing is so effectual as a small draught of canary now and then, using exercise at the same time. But if some violent symptom threatens immediate death, (provided the head be not affected) we must have recourse to laudanum directly, exhibiting twenty drops of it, in a small draught of plague-water, and the patient must compose himself to rest in bed. But if, thro' some error committed in the use of the non-naturals, a violent sickness at stomach succeeds, with vomiting and gripings, and the limbs at this time, from the striking in of the morbid matter, are free from pain, and better disposed to motion than ordinary, the following method is to be used, which formerly snatch'd me from imminent death. Let the patient drink a gallon of posset-drink, or small beer, and as soon as it is all thrown up again by vomiting, give him a small draught of canary, with eighteen drops of laudanum in it. And if the symptoms yield not to this treatment, let a sweat be raised morning and night for two or three days running, and kept up for two or three hours at a time, by a method and medicines adapted to procure it.

17. A translation of the morbid matter to the lungs, the limbs in the mean time being freed from the pain and swelling, is to be treated like a true peripneumony, *viz.* by repeated bleeding, cooling and thickening medicines, and a regimen of the same kind, and purging with lenient purgatives in the intervals of bleeding: but raising a sweat is prejudicial in this case.

Of a Consumption.

1. **T**HERE are several kinds of consumptions. (1.) The first mostly arises from taking cold in winter; abundance of persons being seiz'd with a cough upon the coming in of cold weather, a little before the winter solstice, which happening to such as have naturally weak lungs, these parts must needs be still more weakened by frequent fits of coughing, and become so diseased at length hereby, as to be utterly unable to assimilate their proper nourishment. Hence a copious crude phlegm is collected, which by the continual agitation of the lungs, occasioned by the vehement cough accompanying this distemper, is plentifully expectorated. The lungs being hereby supplied with purulent matter taint the whole mass of blood therewith, whence arises a putrid fever, the fit whereof comes towards evening, and goes off towards morning with profuse and debilitating sweats. Lastly, to close the scene, a looseness succeeds, occasioned partly by corrupt humours, discharged from the mesenteric arteries into the intestines,

tines, and deposited there, and partly by the weakened tone of the viscera; and thus the patient perishes at length the following summer by a distemper occasioned by the foregoing winter. And this is the principal kind of this disease.

2. Moreover, as the blood in winter abounds with moist particles, and perspiration is too much check'd by the sudden contraction of the pores, these particles insinuate themselves into the lungs, thro' the ramifications of the arterial vein, or pulmonary artery, which runs thro' the whole substance of the lungs, or are discharged by the salival ducts, and deposited in the glands of the throat, whence the humour being now fallen thro' the *aspera arteria* upon the lungs, irritates these parts continually, like a *catarrh*, and the frequent and violent fits of coughing, soon cause the weakness and other symptoms above-enumerated. And when the lungs lose their natural tone, tubercles ordinarily breed therein, which, upon viewing the lungs of those that perish by this distemper, generally appear filled with a purulent matter.

3. When this disease is confirmed, it for the most part proves incurable. The cure, however, may be attempted, (1.) by lessening the cause of the defluxion upon the lungs, by bleeding and mild purgatives joined with pectorals, suited to the different states of the disease: for instance, exhibiting *incrassants* when the humour is too thin to be expectorated, and *attenuants* when it is thick, and expectorated with difficulty. (2.) The *hectic fever* must likewise be check'd by cooling medicines; such as asses milk, milk-water, emulsions made of sweet almonds, the seeds of melons, pumpkins, and white poppies, cowslip flower water, and the like. (3.) Lastly, the cure of the ulcer must be undertaken; for which purpose the liquid turpentine, vulgarly call'd *opobalsamum*, is esteem'd an excellent remedy.

4. The cure of this disease, in my opinion, is most successfully attempted in the following manner. (1.) First bleed in the arm, then purge three days with the greater pil. *cochiæ*, or my common purging potion, and the third night give half an ounce of syrup of white poppies. (2.) After an interval of two or three days give another purge, and repeat it as often as there is occasion, till the symptoms either go quite off, or at least abate. (3.) After the operation of every purge, let the patient take twenty drops of *opobalsamum* upon a piece of fine sugar, without drinking after it, or a pill made of *Chio* turpentine, and fine sugar: but *opobalsamum* is not to be used unless suitable evacuations have been previously made. An electuary may be substituted instead of it, made of *Locatellus's* balsam, liquorice powder, anniseeds, and turpentine. (4.) After using evacuations care must be had to abate the

the cough, for fear the lungs should be weakened by the continual agitation thereby caus'd. And for this purpose syrup of white poppies is the best remedy, and may be administer'd in the following form.

Take of the pectoral decoction, a pint; syrup of white poppies, and maiden hair, of each two ounces; mix them together, and let five spoonfuls be taken three times a day.

5. This medicine being frequently used, will abate the defluxion upon the lungs in some measure, and help to recover their former tone, unless the weakness has been of long standing, and will likewise promote the concoction of the purulent matter lodged therein.

6. But the principal assistant in the cure of this disease is riding on horseback every day, insomuch that whoever has recourse to this exercise in order to his cure, need not be tied down to observe any rules in point of diet, nor be debarr'd any kind of solid or liquid aliment, as the cure depends wholly upon exercise. Some persons that have been recovered by this method have been seiz'd with a tumor in the neck, not much unlike those in the king's evil.

7. (2.) There is another kind of consumption, proceeding from a cough, which comes at a different season of the year, namely, at the beginning of summer: and frequently attacks young persons of weakly constitutions, whose blood is over-stocked with hot acrimonious particles. Having over-heated themselves by drinking wine too freely, they force up blood from the lungs by coughing, and feel a slight sort of pain in those parts: and these symptoms not being removed in due time by proper remedies, first an hoarseness, and soon after an ulcer is generated in the lungs, whence pus is at length expectorated.

8. This kind of consumption is easily cured, at least in the beginning, by bleeding and purging twice alternately, along with a cooling and thickening diet, and a total abstinence from flesh.

9. (3.) The third kind of this distemper arises from the translation of febrile matter to the lungs in the declension of a fever, which being more debilitated hereby, are attack'd with the symptoms just enumerated.

10. Sometimes a consumption proceeds from the purulent matter left behind in a pleurisy, for want of having been plentifully enough expectorated, and requires the same treatment as an empyema.

11. (4.) Those that have been weaken'd by immoderate and too frequent evacuations are seiz'd with a fourth kind of consumption, in which a hectic fever comes every night after supper; and these persons are most subject to apthæ.

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